PARE PROJECT NO. 02175.00

METROPOLITAN PROVIDENCE BICYCLE FACILITIES SITE ASSESSMENT PROJECT

PONTIAC SECONDARY BIKE PATH

Cranston, RI
Warwick, RI





DESIGN STUDY REPORT
December 22, 2004

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OVERVIEW

Introduction

The Rhode Island Department of Transportation (RIDOT) has retained Pare Engineering Corporation (PARE) to study and develop the creation of a proposed Shared Use Path facility along the inactive Pontiac Secondary Rail Line located in Cranston, Rhode Island.

The total area of the proposed Pontiac Secondary Bike Path project is shown on Figure 1, the Overall Site Plan. To further highlight details of the existing conditions for the proposed combination of Shared Use Path and Signed Shared Roadway, the Pontiac Secondary Bike Path project has been divided into seven segment sections as shown on Figure 2, the Segment Location Plan.

The following text is organized according to the area covered by each of the seven segments. The segments, as indicated on the maps, are described, with their existing conditions evaluated, and constraints identified as they relate to the location of the Shared Use Path. In conjunction with existing conditions, other pertinent criteria such as intersections, roadway crossings, adjacent properties, and other facilities were examined with the bicyclist's needs in mind to determine the most appropriate design alternative.

Considered in this report are the conclusions that were made in regards to the *2002 Bicycle Transportation User Survey; Developing Intermodal Connections to the 21st Century.* RIDOT, in conjunction with the University of Rhode Island Transportation Center (URITC), has developed and provided a comprehensive bicycle user's survey to the community. The received and compiled questionnaire responses provide valuable statistical information relative to the future planning of the statewide bicycle program. This information identifies key insights into the factors that encourage and/or discourage bicycle use as an alternative travel mode in Rhode Island. The survey data information gathered under this research project also provides a useful tool in justifying the continued future expansion of a transportation infrastructure that truly accommodates a multi-modal system. Analysis obtained from this research helps establish a baseline for future RIDOT bicycle project planning and design. Transportation planners and engineers will have accurate, readily available commuting and recreational related findings as a result of this project. Additional

information pertaining to this project is available on the URITC's website, www.uritc.uri.edu/research.

The Pontiac Secondary Rail Line, approximately 3 miles long, runs in a southerly direction, beginning at Wellington Avenue and terminating at the Cranston/Warwick City line, at Knight Street. The rail line was abandoned in 1991 and acquired by RIDOT in 1996. The Pontiac Secondary Railroad Right-Of-Way (Plat No. 2411) map shows the railway's right-of way width varying approximately 50 to 100 feet. The RIDOT Division of Real Estate and Property Management has confirmed that there are maps and exhibits indicating conveyance of the rail's right-of-way at two locations along the Pontiac Secondary abandoned rail line line. The location of the first parcel that has been transferred is located just south of Sockanosset Cross Road, before passing under Pontiac Avenue and the second transfer of land was to Swarovski America Ltd. in the Howard Industrial Park, approximately 1,200 feet north of Sharpe Drive. The RIDOT Real Estate and Property Management has indicated that depending on the proposed Shared Use Path alignment, the necessary easements would be acquired by the State along these two sections.

The Pontiac Secondary Bike Path runs through diverse areas including forests and fields, as well as residential, commercial, and industrial areas, and historical and special interest districts.

The Cranston League for Cranston's Future (CLCF) Youth organization is located along the corridor's route. Improved and unimproved walking trails are located within the Pawtuxet River Reservation, through which the abandoned rail line passes. There are also canoe and trail access points along the riverbanks. For additional location information on these sites, refer to the individual Segment Plans.

There are historical sites also located in this area. Referring to the Fall 1993 Final Report, *"The Pawtuxet River Corridor Study"*, conducted by the University of Rhode Island, Graduate Curriculum in Community Planning and Area Development, the Pontiac Mill Village Neighborhood and the AMTRAK Bridge are sites that are listed as being registered with local, state, and/or federal historical registries.

The protection, preservation, and reuse of these cultural resources and those also located along the river should be carefully considered in the future plans for the development of the Bike Path. The

proposed Pontiac Secondary Shared Use Path runs alongside an historical state institution cemetery just before meeting the City line.

The trail is generally dry, relatively flat, and appears to be well drained. There are areas where the former railroad bed crosses through or over wetlands. Located just south of, and generally following the rail line, is the Pawtuxet River. It flows through a total of five communities in central Rhode Island. As it relates to this project, the river's boundaries through Cranston and Warwick are east to west. It additionally flows through the East Natick Village and into the Pawtuxet Cove. The main tributary entering the Pawtuxet River in this area is the Pocasset River. The Environmental Permitting section of the report (Section 10) outlines the location of the wetlands and associated potential impacts for each of the seven segments.

There are four bridge crossings located in the proposed Pontiac Secondary Bike Path project limits. In order from east to west they are:

- The bridge over Well Avenue
- The bridge over Wellington Avenue
- The bridge over Interstate Route 95
- The bridge over the Pocasset River near Marine Drive.

A common assumption that each bridge was capable of handling loads similar to railroad traffic was made when evaluating the alternatives that involved the repairing of the structure. The alternatives involving replacement of the structure anticipated future loading to support emergency vehicles.

As well, there are two existing underpasses along the abandoned railroad. They are under Route 37 and Pontiac Avenue in the Pontiac Secondary Rail Line section.

Major routes that skirt and traverse this region of study are Interstate Routes 295 and 95 and State Routes 1, 2, 5, and 37. Along the proposed Pontiac Secondary Bike Path, at-grade crossings are located on Allen Avenue, Forest/Linden Avenues, Pontiac Avenue, Sockanosset Cross Road and Sharpe Drive. For additional location information on these crossings, refer to the individual Segment Plans.

Railroad ties still remain along most of the lengths of the Pontiac Secondary corridor. Rails are found infrequently throughout the proposed alignment.

The corridor is inaccessible in only a few sections where the vegetation has become quite overgrown. The right of entry to the rail line has also been restricted in locations by fences that have been installed by bordering property owners. Other encroachments upon the rail line include gardens, landscaping, play equipment, and lawn furniture. There are also abutting owners that use the land as a dumping place for grass and tree trimmings as well as other debris.

The creation of the proposed Pontiac Secondary Bike Path would provide commuters and recreational bicyclists with continuous increased access to the Washington Secondary Corridor Bike Path from points east, and eventual connection to the proposed South Elmwood bicycle facility. It would also create connections to the Pawtuxet River trails, the Cranston Cross City Bike Route, parks, commercial, industrial and historical districts. Public access and increased recreational usage along the river and adjoining sites would be accomplished.

This feasibility study investigates the possibility of developing the former Pontiac Secondary Rail Line into a Shared Use Path. The intent of this report is to analyze the feasibility of a continuous path from Warwick, through Cranston, and eventual connection to the Washington Secondary Bike Path that runs north/south across Cranston and parallels Route 5. The path design that is being considered is a multi-use 12-foot wide paved path that is separated from motor vehicle traffic and capable of handling two directions of traffic.

The proposed Pontiac Secondary Bike Path would begin as a continuation of the termination of the proposed South Elmwood Spur after it passes under the active AMTRAK railroad bridge on Wellington Avenue.

The proposed Pontiac Secondary Bike Path becomes a Shared Use Path as it crosses over three bridges, the bridge that crosses over Well Avenue, the bridge that crosses over Wellington Avenue, and the I-95 overpass. It is proposed that it continues on as a Shared Use Path to Allen Avenue and through a residential neighborhood.

Following the river in a westerly direction, the proposed bike path would continue on the abandoned wooden trestle through a mix of residential and industrial sites. After passing through the Pawtuxet River Reservation, the path crosses over the Pocasset River on a timber trestle bridge. It continues

on in a southerly direction, crossing and running parallel to Pontiac Avenue towards Sockanosset Cross Road.

Crossing Sockanosset Cross Road and continuing on after the underpass, the proposed path would be in close proximity to the State's Department of Corrections (DOC) maximum security facility, Department of Health, and the Eleanor Slater State Hospital that are located off of Pontiac Avenue.

Further south after exiting the State facilities, the abandoned rail line goes under Pontiac Avenue and sets out towards the Howard Industrial Park, heading to Sharpe Drive.

An alternative route, Alternative A, to be considered is presented as an option for the continuation of this bicycle facility. This Alternative avoids the close proximity to the DOC. Alternative A, as depicted on the Segment 4, 5 and 6 Plans and described in their accompanying segment descriptions, is one which proposes that the path goes on-road as a Signed Shared Roadway near Sockanosset Cross Road, after passing by Zinnia Drive. It would utilize the Providence Water Supply Board's right-of-way that exists north of Sockanosset Cross Road and west of Pontiac Avenue. This route would exit on Pontiac Avenue, approximately 750 feet north of the intersection with Sockanosset Cross Road, be signed along Pontiac Avenue to Kenney Drive, and connect to the abandoned Pontiac Secondary Rail Line in the Howard Industrial Park at Sharpe Drive. To successfully implement this alternative it would require that the necessary easement be obtained from the Providence Water Supply Board.

The Providence Water Supply Board's right-of-way is north of Sockanossett Cross Road. It runs parallel to Sockanosset Cross Road and extends west from Pontiac Avenue to the Garden City Shopping Center. This right-of-way could be utilized as a means to connect the proposed bike path to the Garden City area. The proposed connection is depicted on Figure 15, Garden City Connection. This bike path would provide the bicyclist with access to other sections of the City. Parking is also available at the Garden City Shopping Center. As such, this arrangement would allow for convenient entry to the proposed Pontiac Secondary Bike Path from this location. To build this Garden City connection it would require that the necessary easements be obtained from the Providence Water Supply Board.

The end of the proposed Pontiac Secondary Bike Path would be at the junction of Pontiac Avenue and Knight Street, on the Warwick-Cranston City line next to the Pawtuxet River.

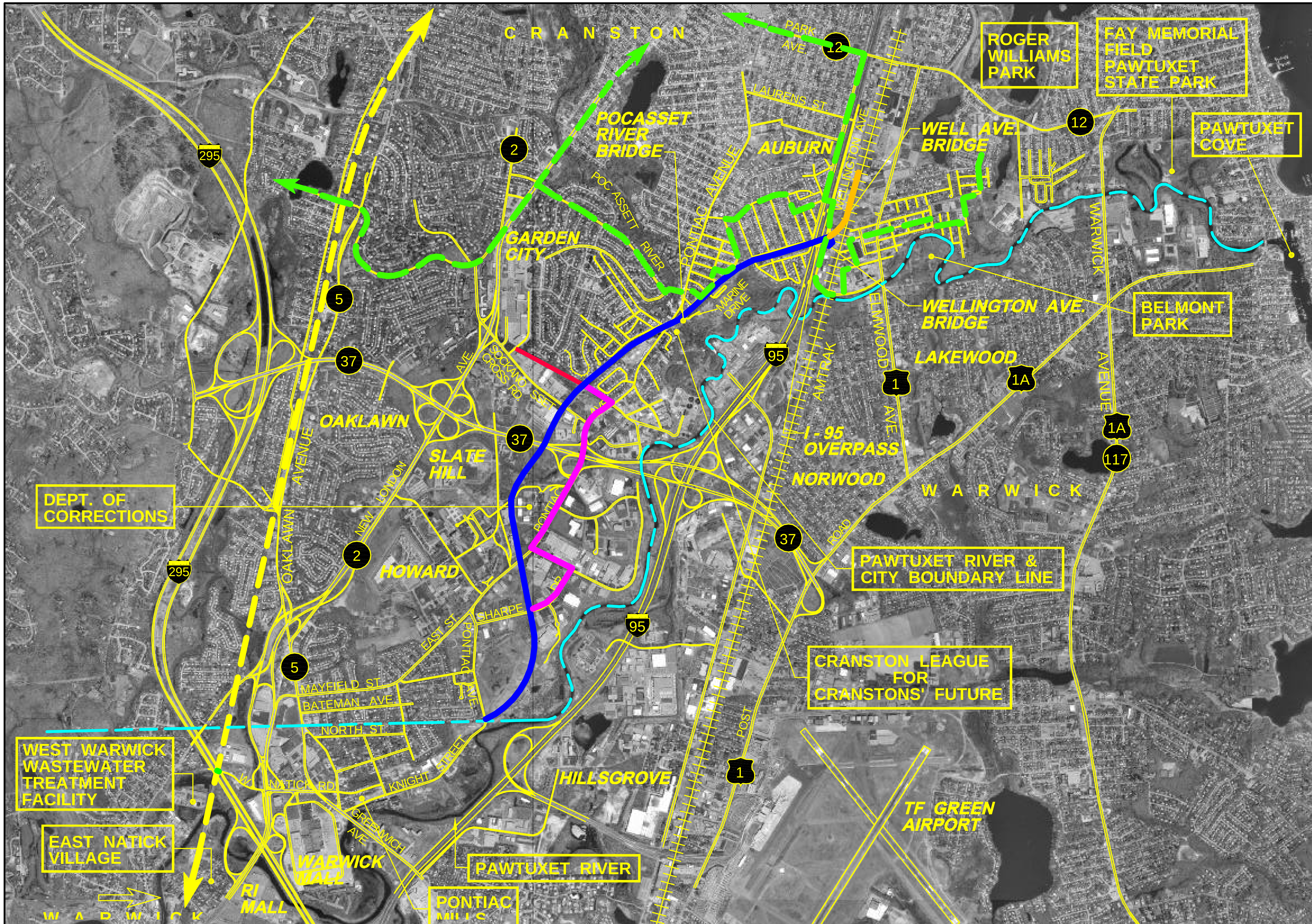
To accomplish the connection to the Washington Secondary Corridor Bike Path and make this bike system complete, a Signed Shared Roadway should be considered along Knight Street, north on Greenwich Avenue, turning west on West Natick Road, crossing Route 2, and meeting the Washington Secondary Corridor Bike Path. This is discussed in detail in the Recommendations section and shown on Figure 19, Recommended Connection Plan.

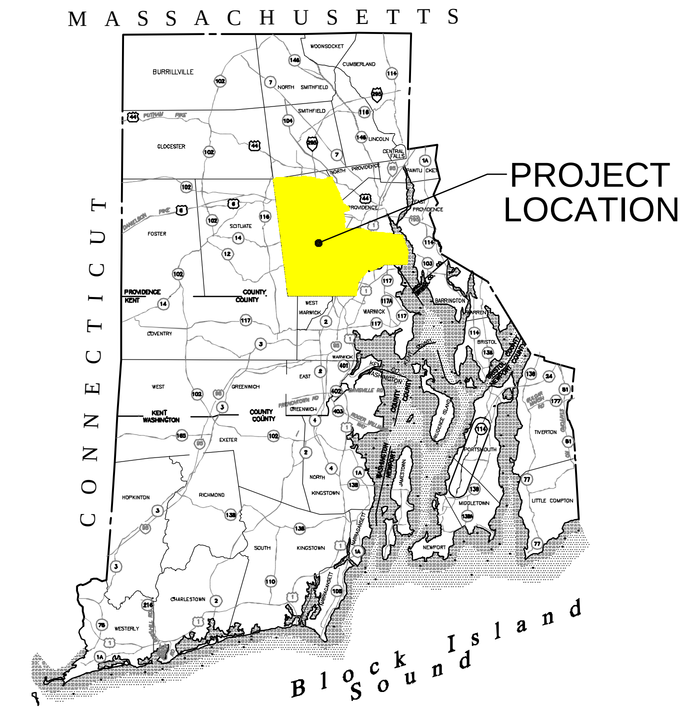
Crosswalks, bikeway and destination signing, and pavement marking treatments are proposed at locations as shown on the plans and detailed in the discussion of each alternative. AASHTO and the "*Manual of Uniform Traffic Control Devices"* (MUTCD), Millennium Edition, Part 9, Traffic Controls for Bicycle facilities were used to propose signs and markings for the bikeway facilities for this project.

The recommended Pontiac Secondary Bike Path Shared Use Path is presented in its entirety along the abandoned rail line. The existing conditions and the related constraints are described in detail in each segment's narrative. The alternative Signed Shared Roadway is presented as an available option. The proposed bicycle facility, in addition to Alternative A, is shown in its entirety on Figure 1, the Overall Site Plan.

The opinion of probable cost to build the Shared Use Bike Path facility, in its entirety, is approximately $1,497,000. A breakdown of the associated items and costs to complete the path is provided in Appendix E. This preliminary opinion does not include the costs related to environmental permitting efforts, property right-of-way acquisitions, or signalization.

The opinion of probable cost to build the Alternative A Signed Shared Roadway in Segments 4, 5, and 6 is approximately $8,000, making the total cost of the bicycle facility for all segments utilizing this alternative $1,257,000. A breakdown of the associated items and costs to complete the Signed shared Roadway is provided in Appendix F. This preliminary opinion does not include the costs related to environmental permitting efforts, property right-of-way acquisitions, or signalization.


C R A N S T O N
POCASSET RIVER BRIDGE
POC ASSETT RIVER
AUBURN
PARK AVE.
LAURENS ST.
WELLINGTON AVE.
WELL AVE. BRIDGE
ROGER WILLIAMS PARK
FAY MEMORIAL FIELD PAWTUXET STATE PARK
PAWTUXET COVE
GARDEN CITY
PONTIAC AVENUE
MARINE DRIVE
WELLINGTON AVE. BRIDGE
BELMONT PARK
ELMWOOD AVE.
AMTRAK
LAKEWOOD
WARWICK AVENUE
OAKLAWN
SLATE HILL
SOCKANOSSET CROSS RD.
AVE.
I - 95 OVERPASS
NORWOOD
W A R W I C K
DEPT. OF CORRECTIONS
OAKLAWN AVENUE
NEW LONDON
HOWARD
ROAD
PAWTUXET RIVER & CITY BOUNDARY LINE
SHARPE
EAST ST.
PONTIAC AVE.
CRANSTON LEAGUE FOR CRANSTONS' FUTURE
MAYFIELD ST.
BATEMAN AVE.
NORTH ST.
WEST WARWICK WASTEWATER TREATMENT FACILITY
W. NATICK RD.
KNIGHT STREET
HILLSGROVE
POST
TF GREEN AIRPORT
EAST NATICK VILLAGE
GREENWICH AVE.
WARWICK MALL
RI MALL
PAWTUXET RIVER
PONTIAC MILLS
295
5
37
2
12
95
1
1A
117



LOCATION MAP
Not To Scale

LEGEND

- PROPOSED CROSSWALK
- CONTINUATION OF ROUTE (COLOR VARIES)
- PROPOSED BIKE PATH SIGN
- EXISTING WASHINGTON SECONDARY CORRIDOR BIKE PATH
- EXISTING CRANSTON CROSS CITY BIKE ROUTE
- EXISTING PONTIAC SECONDARY SPUR
- ALTERNATIVE A - PROPOSED PONTIAC SECONDARY SPUR
- PROPOSED PONTIAC SECONDARY SPUR
- APPROXIMATE CITY LINE
- PROPOSED GARDEN CITY CONNECTION
- EXISTING ROADWAY

1320' 0 1320' 2640' 5280'
1"=2640'

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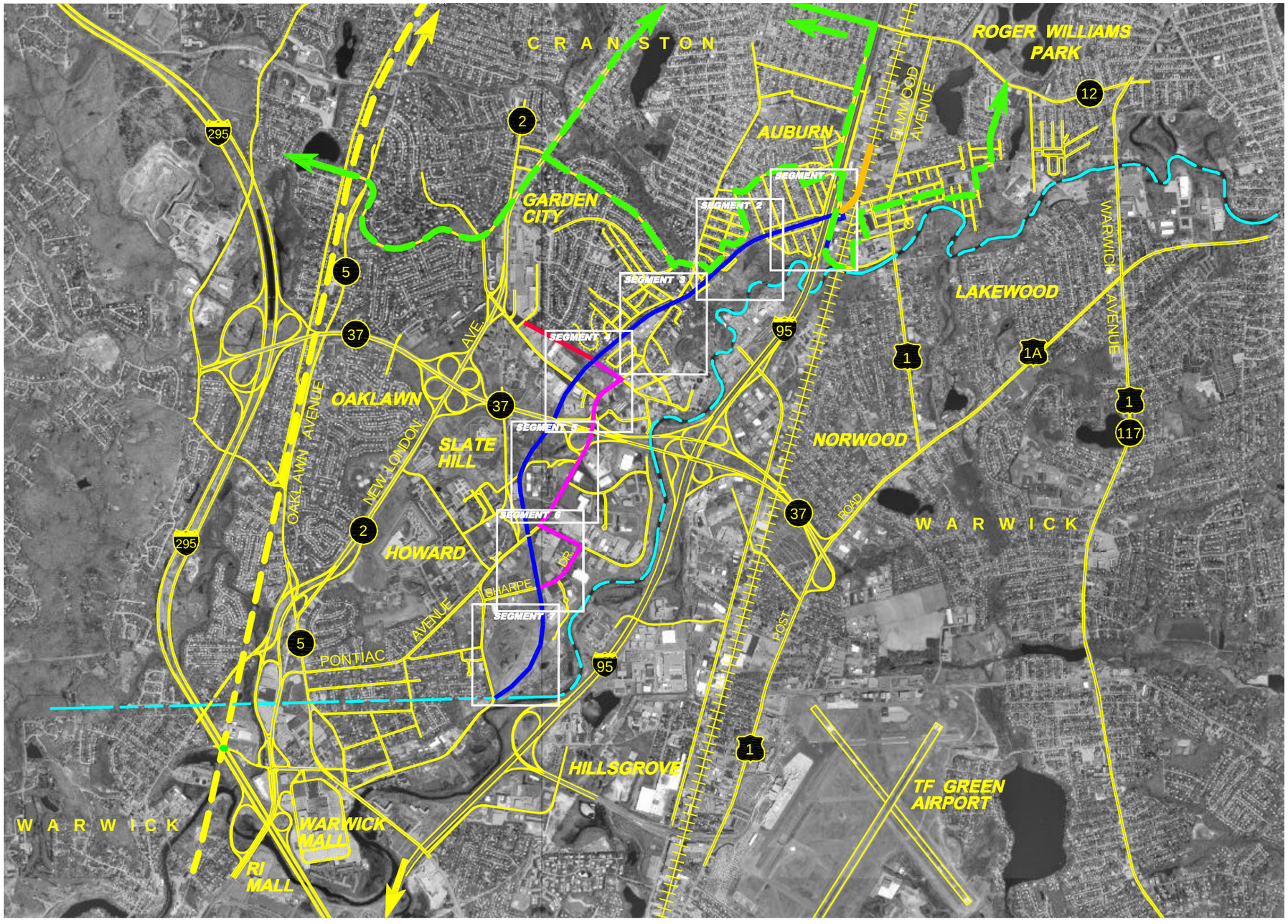
Cranston, Rhode Island
OVERALL SITE PLAN

FIGURE 1



LEGEND

- CONTINUATION OF ROUTE (COLOR VARIES)
- EXISTING WASHINGTON SECONDARY CORRIDOR BIKE PATH
- EXISTING CRANSTON CROSS CITY BIKE ROUTE
- EXISTING PONTIAC SECONDARY SPUR
- ALTERNATIVE A - PROPOSED PONTIAC SECONDARY SPUR
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PONTIAC SECONDARY SPUR

Cranston, Rhode Island

SEGMENT LOCATION PLAN

Design Criteria

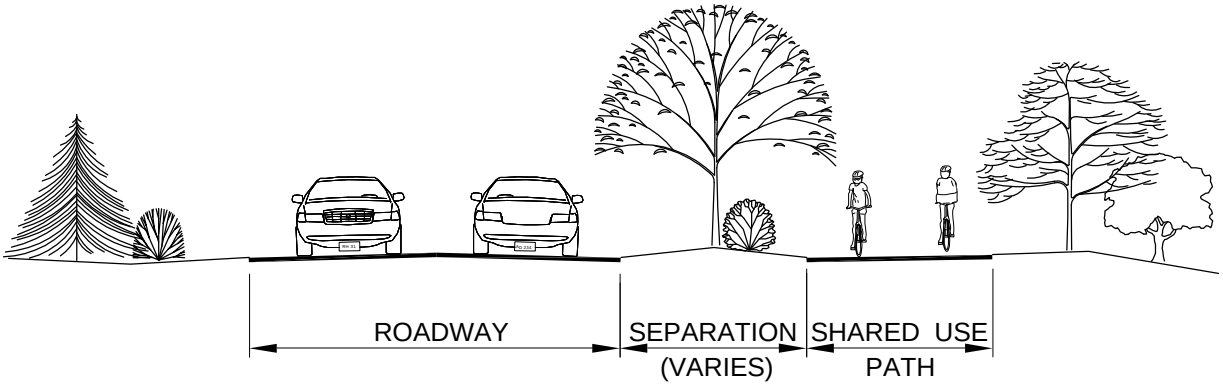
Recommendations for bikeway classification and design of the Pontiac Secondary Bike Path project were based on the 1999 AASHTO *"Guide for the Development of Bicycle Facilities."* A description of each of the four bike facility types is explained below and Figure 3, Bike Facility Class, illustrates three of these types. The recommended bicycle facility is based on several factors including the ability of the users, specific corridor conditions, existing roadway conditions, and associated costs necessary to upgrade the roadway to an acceptable bicycle facility.

Shared Roadways:

A Shared Roadway facility has no bikeway classification or designation. According to AASHTO, different types of roadway conditions can result in a Shared Roadway designation. One condition is that the existing street system is currently being used for efficient bicycle travel without signing and striping. A second condition is that the existing roadway is not deemed suitable for bicycle travel and, therefore, bicycle travel should not be encouraged by designating the route by means of signing and/or marking as an approved bikeway. Another condition that could lead to a Shared Roadway classification is that the roadway is not considered a high demand bicycle corridor and as such the road should not be designated as another bikeway classification, regardless of roadway conditions. On roadways without designated bikeways, a minimum lane width of 12 feet, width 14 feet being desirable, can best accommodate both the bicyclist and motorist.

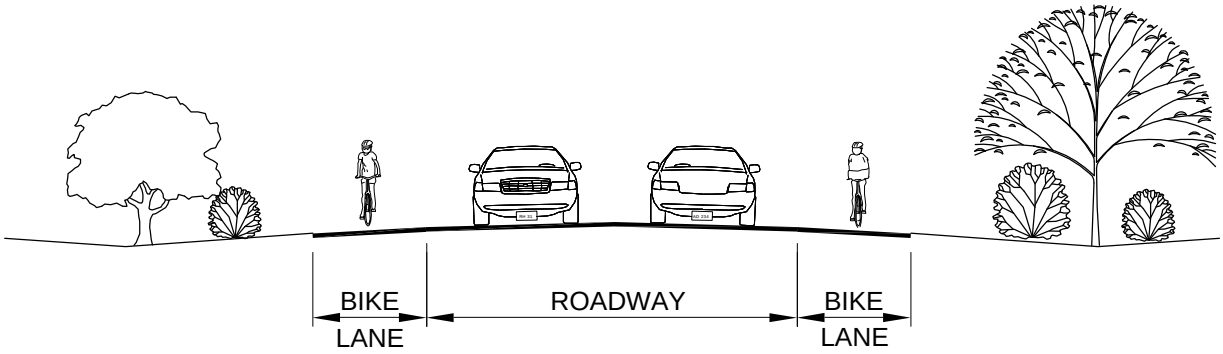
Shared Use Path:

Shared Use Paths should be thought of as a complementary system of off-road transportation routes for bicyclists and others that serve as a necessary extension to the roadway network. Most Shared Use Paths are facilities on exclusive right-of-way, are designed off-road, and are physically separated from motor vehicle traffic. Shared Use Paths can be located along rivers, ocean fronts, canals, abandoned or active railroad and utility right-of-way, limited access freeways, within college campuses or within and between parks. Shared Use Paths are designed to work with the on-road bicycle facilities to provide the greatest opportunities to bicyclists and pedestrians. For Shared Use Paths to be successful, it is very important to provide users with connections to the roadway network. A critical component of Shared Use Paths are the transitions to and from the roadway network.



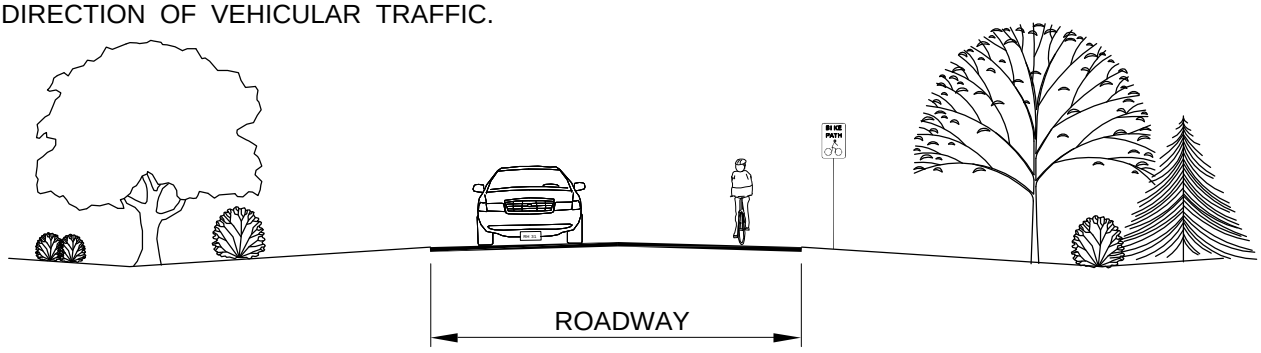
SHARED USE PATH

A BIKEWAY PHYSICALLY SEPARATED FROM MOTORIZED VEHICULAR TRAFFIC BY AN OPEN SPACE OR BARRIER WITHIN THE HIGHWAY RIGHT - OF - WAY OR WITHIN AN INDEPENDENT RIGHT - OF - WAY. THESE PATHS WILL ALSO BE USED BY PEDESTRIANS, SKATERS, WHEELCHAIRS, JOGGERS AND OTHER NON - MOTORIZED USERS.



BIKE LANE

A PORTION OF A ROADWAY WHICH HAS BEEN DESIGNATED BY STRIPING, SIGNING, AND PAVEMENT MARKINGS FOR THE PREFERENTIAL OR EXCLUSIVE USE OF BICYCLISTS. BIKE LANES ARE ONE - WAY DIRECTIONAL TRAVEL LANES, CORRESPONDING WITH THE DIRECTION OF VEHICULAR TRAFFIC.



SIGNED SHARED ROADWAY

A SIGNED SHARED ROADWAY WHICH HAS BEEN DESIGNATED BY SIGNING AS A PREFERRED ROUTE FOR BICYCLE USE. THE SIGNED SHARED ROADWAY, WHICH IS OPEN TO BOTH BICYCLE AND MOTOR VEHICLE TRAVEL, MAY BE WITH OR WITHOUT PAVED SHOULDERS AND / OR CURBING. BICYCLISTS TRAVEL IN THE SAME DIRECTION AS VEHICLES SHARING THE SAME SIDE OF THE ROADWAY.

Not To Scale

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Cranston, Rhode Island
BIKE FACILITY CLASS

FIGURE 3

Bike Lane:

A Bike Lane is a portion of roadway that has been designated with striping, signing, and pavement markings for preferred or exclusive use by bicyclists. Bike Lanes should always be one-way, carrying bicyclists in the same direction as the adjacent travel lane and on the right side of the road. Minimum travel lane width is the same as for that of the Shared Roadway, 12 feet minimum, 14 feet desirable. Widths greater than 14 feet may encourage the undesirable operation of two motor vehicles in one lane and therefore is not recommended. In areas where 15 feet or more of pavement width exists, striping of lanes for bikes or shoulders should be considered. Width requirements for Bike Lanes vary according to roadway conditions. Bike Lanes may have a minimum width of 4 feet, where the area beyond the paved shoulder can provide additional maneuvering width. A width of 5 feet or greater is preferred where truck traffic is present or where motor vehicle speeds exceed 50 MPH. Where parking is permitted, the Bike Lane should be placed between the parking area and the travel lane and have a minimum width of 5 feet. A Bike Lane should be delineated from motor vehicle travel lanes with a 6-inch solid white line. Figure 4, Typical Bike Lane Cross Sections, is the standard provided by AASHTO for the delineation and designation of Bike Lanes for different roadway situations.

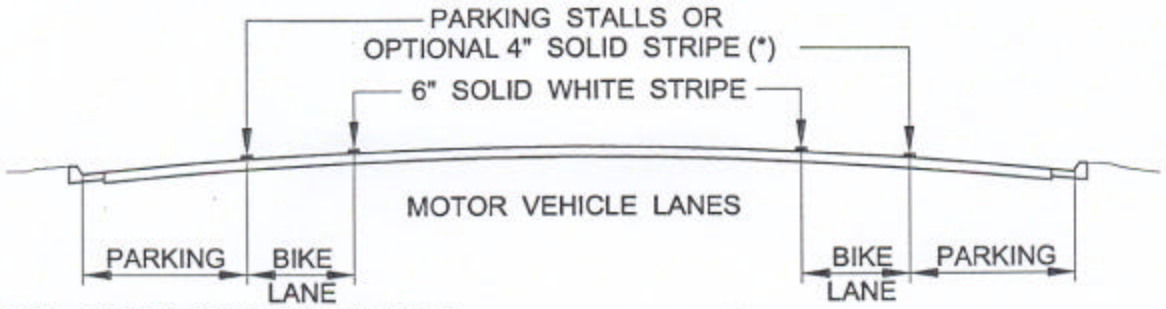
Signed Shared Roadway:

Signed Shared Roadways are those roads that have been identified by signing only as preferred routes through high demand corridors. Certain criteria must be considered prior to signing a Signed Shared Roadway. These include, but are not limited to, the removal or restriction of on-street parking, smooth riding surface, regularly maintained roadways that meet the needs of bicyclists, and have wide shoulders.

A Signed Shared Roadway should have particular advantages for bicyclists over alternative routes. According to AASHTO, Signed Shared Roadways should provide through and direct travel, connect to other bicycle facilities, and give priority to bicyclists. Signing also advises motorists that bicycles are present.

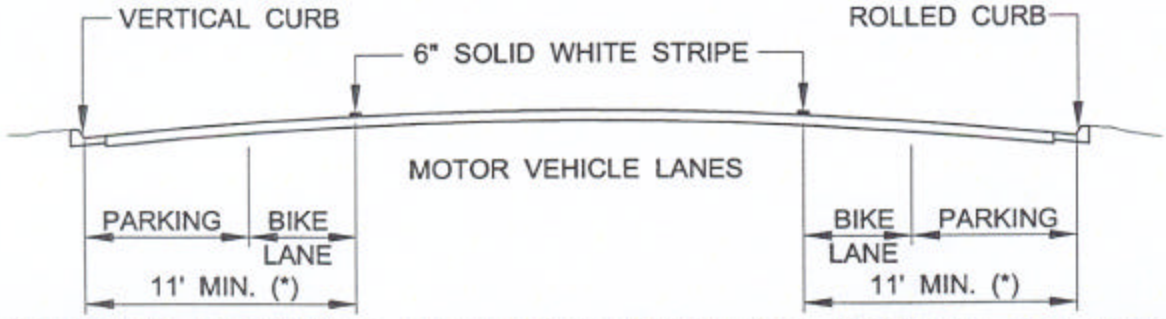
General Guidelines

AASHTO provides three bicycle user types that are a helpful guide in assisting highway designers in determining the impact of different facility types and roadway conditions on bicyclists.



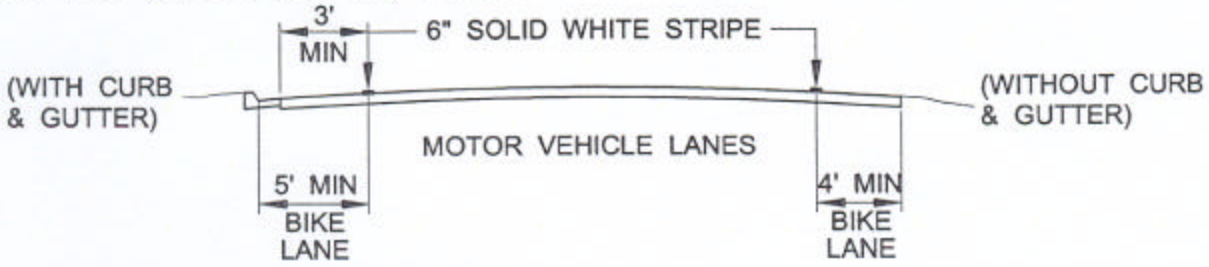
ON STREET PARKING

*THE OPTIONAL SOLID WHITE STRIPE MAY BE ADVISABLE WHERE STALLS ARE NECESSARY (BECAUSE PARKING IS LIGHT) BUT THERE IS CONCERN THAT MOTORISTS MAY MISCONSTRUE THE BIKE LANE TO BE A TRAFFIC LANE.

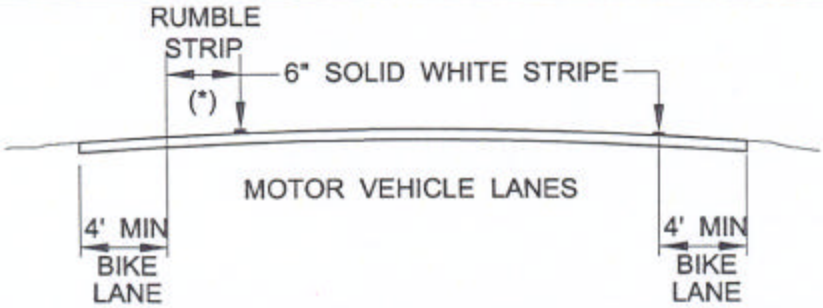


PARKING PERMITTED WITHOUT PARKING STRIPE OR STALL

* 13 ' IS RECOMMENDED WHERE THERE IS SUBSTANTIAL PARKING OR TURNOVER OF PARKED CARS IN HIGH (e.g. COMMERCIAL) AREAS.



PARKING PROHIBITED



TYPICAL ROADWAY IN OUTLYING AREAS PARKING PROTECTED

*IF RUMBLE STRIPS EXIST THERE SHOULD BE 4' MINIMUM FROM THE RUMBLE STRIP TO THE OUTSIDE EDGE OF THE SHOULDER.

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TYPICAL BIKE LANE
CROSS SECTIONS

FIGURE 4

:

- Group A – Advanced Bicyclists: These are experienced riders who can operate under most traffic conditions. They are typically comfortable riding with motor vehicle traffic; however they need sufficient operating space on the traveled way or shoulder to eliminate the need for either them or a passing vehicle to shift position.
- Group B – Basic Bicyclists: These are casual or new adult and teenage riders who are less confident of their ability to operate in traffic without special provisions for bicycles. Thus, basic riders are comfortable riding on neighborhood streets and Shared Use Paths and prefer designated facilities such as Bike Lanes or wide shoulder lanes on busier streets.
- Group C – Children: These bicyclists ride on their own or with their parents. Residential streets with low motor vehicle speeds, linked with Shared Use Paths and busier streets with well-defined pavement markings between bicycles and vehicles, can accommodate children without encouraging them to ride in the travel lane of major arterials.

According to AASHTO, "width is the most critical variable affecting the ability of a roadway to accommodate bicycle traffic. In order for bicycles and motor vehicles to share the use of a roadway without compromising the level of service and safety for either, the facility should provide sufficient paved width to accommodate both modes." AASHTO recommended paved widths vary with the roadway conditions. Like that of a "Shared Roadway," minimum lane width of 12 feet is required but 14 feet is desirable to accommodate both bicyclists and motorists. These minimum useable lane widths provide maneuvering room for drivers exiting from or in areas with limited sight distances.

Signed Shared Roadways should be signed approximately every ¼ mile and at signalized intersections with both guide and supplemental signs. Also, directional signs are to be placed at every turn to both mark the road and to confirm that the rider has made the correct turn. Bicycle warning signs will be installed to warn bicyclists of conditions not readily apparent, such as "HILL" or "CURVE", along the route. Roadways that do not meet the criteria for a Signed Shared Roadway should not be signed as such. However, destination signs may be posted if the roadway leads to a logical destination such as a park, school, or municipal offices. Crossing signs and crosswalks can be proposed at locations where it is necessary to cross the road to access Signed Shared Roadways, Shared Use Paths, or other destinations. The *"Manual of Uniform Traffic Control Devices"* (MUTCD) provides regulatory sign standards and markings.

SEGMENT 1

Description:

The area studied for this approximate 2,500-foot segment begins at the end of the proposed South Elmwood Spur on Wellington Avenue, at the underpass to the active AMTRAK railroad bridge (Photo 1). It then proceeds to cross the bridge over Well Avenue (Photo 2), to the bridge over Wellington Avenue (Photo 3) and onto the I-95 Overpass. Once over the three bridges, the abandoned Pontiac Secondary Rail Line continues on in a westerly direction. This segment ends after crossing Forest/Linden Avenues. Figure 5, the Segment 1 Plan, shows the segment's location and its approximate project limits.

Photo 1. Cranston Cross City Bike Route Crossing Under The Wellington Avenue Railroad Bridge

Photo 2. Looking East Along The Well Avenue Bridge

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Photo 3. Looking West Along The Wellington Avenue Bridge and I-95 Overpass

Existing Conditions:

In order to avoid the active high-speed AMTRAK at-grade crossing, the proposed South Elmwood Shared Use Path becomes a Signed Shared Roadway. The existing signed Cranston Cross City Bike Route is to be utilized as part of the proposed bicycle facility, continuing on Wellington Avenue and eventually making its way under the railroad bridge.

About 500 feet west of the existing AMTRAK corridor, the railroad grade crosses over Well Avenue on a timber trestle bridge (Photo 4). Located in the middle of Well Avenue, the existing structure spans approximately 40 feet over a timber bent and its clearance over Well Avenue measures approximately 10 feet. All of the timbers comprising the bent and the beams of the superstructure appear to be in fair condition with only minor sections of decay visible. As well, the granite stone abutments are in good condition as are the railroad ties that remain intact. There are no utilities being carried on the structure, however, there are draped overhead electric and cable lines for the length of the bridge along the east abutment. Although the exact construction date cannot be determined, based on available historical data and information it is estimated that the bridge was most likely constructed near the turn of the century.

Photo 4. Looking North At Bridge Over Well Avenue

Photo 5. Looking North At Bridge Over Wellington Avenue

Once over Well Avenue, the railroad bed crosses Wellington Avenue and a drainage channel on a two-span steel through girder bridge (Photo 5). Each span measures approximately 75 feet in length with accompanying 6-foot deep girders. These girders support the traverse floor beams and a ballasted steel deck pan. With a 3-foot exposure above the stone ballast, the girders have a 16-foot, 4-inch clear distance between them. No utilities are carried over by the bridge. The concrete abutments and piers appear to be in good condition. The overall state of the superstructure is in good condition with only minor amounts of peeling paint, rust, and graffiti on it. Immediately after the Wellington Avenue Bridge, the Pontiac Secondary Bike Path crosses over Interstate Route 95 on a steel through girder bridge that has two spans (Photo 6).

Photo 6. I-95 Overpass

Each of these span measures approximately 90 feet. The 8-foot deep girders support traverse floor beams and a ballasted steel deck pan. There is a clear distance of 16-feet, 4-inches between the girders and approximately 4 feet is viewed as exposed above the stone ballast. A 6-foot high chain link fence is mounted atop each girder and there are no utilities being carried over on the bridge (Photo 7). The concrete abutments and piers appear to be in good condition. The overall state of the superstructure is in good condition with only minor amounts of peeling paint, rust, and graffiti on it. The bridge was probably constructed in the mid to late 1960s, at the same time and as part of the construction of I-95.

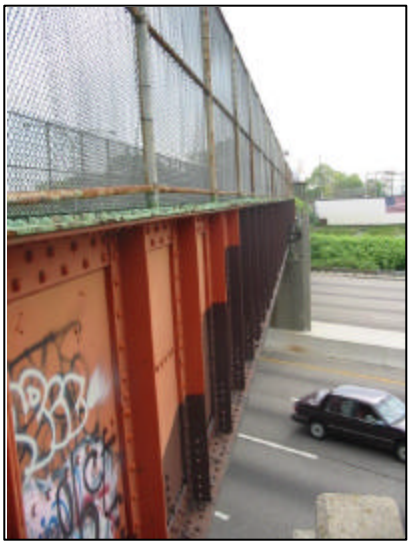

Photo 7. I-95 Overpass South Girder

After crossing over I-95, the proposed Pontiac Secondary Bike Path goes across Allen Avenue and continues in a southwesterly direction. The route runs between and parallel to Harper and Allen Avenues in this semi-wooded area. The area is heavily vegetated and relatively flat (Photo 8).

Photo 8. Looking West Across Allen Avenue

A total of twenty-nine residential and three industrial and/or commercial properties abut the rail's right-of-way through this segment. Along the north side of Allen Avenue and south side of Harper Avenue are dense residential neighborhoods that lie adjacent to the Pontiac Secondary Rail Line. These parcels alongside the proposed path are typically ¼ acre lots. There is some debris and litter scattered throughout this segment and it appears that there are some property owners who use the railroad right-of-way for garden and landscaping purposes. There exist no railroad rails although there are occasional ties remaining along this segment of the path. Rails are, however, embedded in the pavement at the road crossings.

The proposed path crosses two local streets, Allen and Forest/Linden Avenues. The property owner on the corner of Allen and Forest Avenue uses the rail's right-of-way as a place to throw cut trees, leaves, and other such waste items (Photo 9).

Photo 9. Looking East From Forest/Linden Avenues

Proposed Recommendations:

No additional signage is required from the Wellington Avenue railroad underpass to Well Avenue since the Cranston Cross City Bike Route is already currently and adequately signed in this vicinity.

Photo 10. AMTRAK Right-Of-Way

Directly west and after passing under the bridge, RIDOT's Freight Rail Improvement Project is under construction in the right-of-way to the north and south of Wellington Avenue. It would be desirable for the path to turn off-road and meet at the Well Avenue railroad bridge along the northern part of the right-of-way (Photo 10). Permission and required permits would have to be obtained from AMTRAK authorities to accomplish this alternative.

The other alternative would be to continue on the Cranston Cross City Bike Route on Wellington Avenue to the Well Avenue railroad overpass. This alternative requires that Well Avenue have bike signs installed directing the bicyclist over the three bridges. This route's proposed signage is to be placed at the approximate locations as indicated on Figure 5, Segment 1 Plan.

There are two issues of concern regarding the improvements warranted for the bridge over Well Avenue. First, the utility lines that hang underneath the structure pose an opportunity for vandalism because of the increased accessibility that would occur from the construction of the proposed path.

Second, the center pier's location on Well Avenue in combination with the existing low clearance makes for a potential vehicle collision situation.

Two alternatives for the upgrading of the Well Avenue bridge are presented here for consideration. Alternative 1 preserves the existing structure, which is in generally good condition, and installs only a new timber deck and rail system. In order to address the hazardous vehicle condition that was previously described, protection devices including guardrail, attenuators and warning signs are to be installed on Well Avenue. As well, due to the steep sides slopes that are adjacent to Well Avenue, 2 to 3 foot high retaining walls would be built at both approaches. For further specific details, refer to Figure 6, Well Avenue Bridge – Alternative 1 – Elevation Plan.

Alternative 2 replaces the entire structure, thus eliminating the concerns associated with the center pier and clearance. To provide the AASHTO minimum requirement of 14 feet, a steel through truss type bridge is proposed. Accomplishing this design requires significant approach retaining walls on both sides of approximately 4 to 5 feet in height, in addition to abutment modifications. For further specific details, refer to Figure 7, Well Avenue Bridge – Alternative 2 – Elevation Plan.

Both Alternatives 1 and 2 include that the utilities be relocated from under and along the span to overhead, creating a better protected environment.

For comparison purposes, an opinion of probable cost has been prepared for each alternative. A breakdown of the individual items and associated costs is provided in Appendix A. The opinion of probable costs for Alternative 1 and 2 are $150,000 and $272,000, respectively. Alternative 2, although higher in cost than Alternative 1, is recommended due to the safety concerns with the center pier and the clearance deficiencies that currently exist. It should be noted that if Alternative 1 is selected, a design exception variance would be required due to the existing substandard clearance.

As explained in the existing conditions section, the bridge over Wellington Avenue and the I-95 overpass are both in good condition. The ballasts and steel decks presently provide a well-built arrangement capable of carrying the proposed pavement structure with only minimal additional work involved to accomplish the associated upgrades.

Recommended improvements include pavement drains installed and connected to the existing down spouts in the deck system, expansion joints installed at each deck expansion to allow for thermal movement, and putting up a railing system of timber or tubular steel. Mounting the rail to proper height would protect cyclists from possible accidents with grider stiffener plates. Refer to Figure 8, the Wellington Avenue Bridge Section and Figure 9, the I-95 Overpass Section for additional specific details.

The opinion of probable cost has been completed for each bridge and a breakdown of the individual items and associated costs are provided in Appendices B and C. The approximate costs are $71,000 and $79,000, respectively to make the recommended improvements as cited above for the Wellington Avenue Bridge and I-95 Overpass.

Appropriate crosswalk and bike crossing sign arrangements are proposed on Doric Avenue and Forest/Linden Avenues as indicated on Figure 5, the Segment 1 Plan.

The area must be cleared and cleaned of its overgrowth and vegetation. The debris that exists within the right-of-way limits of the proposed path throughout this segment must be removed and disposed of properly.

It will become necessary to inform those residents who reside in this segment that encroach onto the railroad right-of-way.

The opinion of probable cost for the implementation of the proposed bicycle facility within this segment, including the costs to do the three bridge recommendations, is approximately $571,000. A breakdown of the associated items and costs to build this section of the proposed Pontiac Secondary Bike Path project is provided in the Appendix E. The opinion of probable cost does not include the costs related with required environmental permitting efforts or property right-of-way acquisitions.

LEGEND

- PROPOSED CROSSWALK
- CONTINUATION OF ROUTE (COLOR VARIES)
- PROPOSED BIKE PATH SIGN
- EXISTING CRANSTON CROSS CITY BIKE ROUTE
- PROPOSED PONTIAC SECONDARY SPUR
- EXISTING PONTIAC SECONDARY SPUR
- EXISTING ROADWAY

Scale: 1"= 300'±

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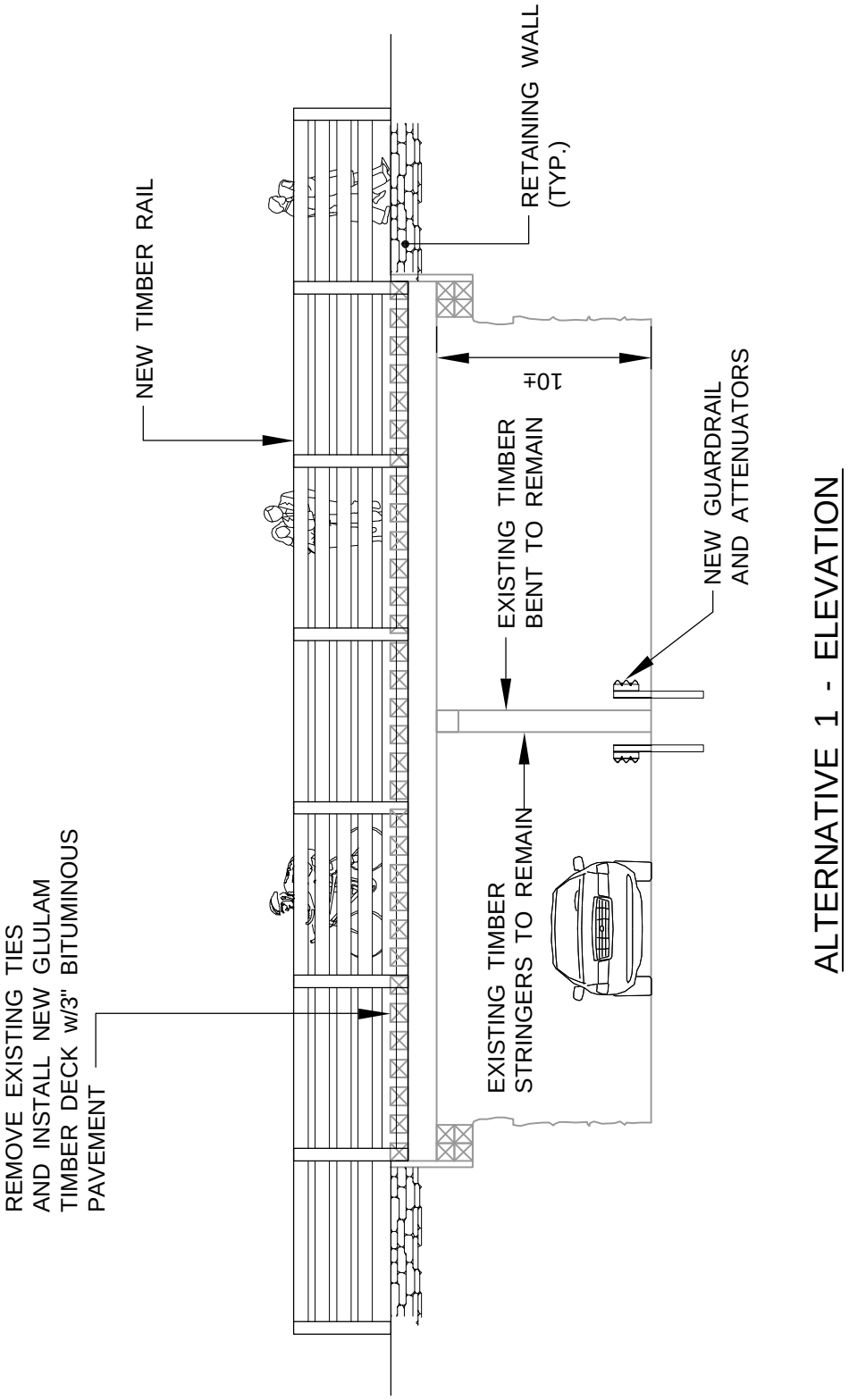
Cranston, Rhode Island
SEGMENT 1

FIGURE 5



ALTERNATIVE 1 - ELEVATION

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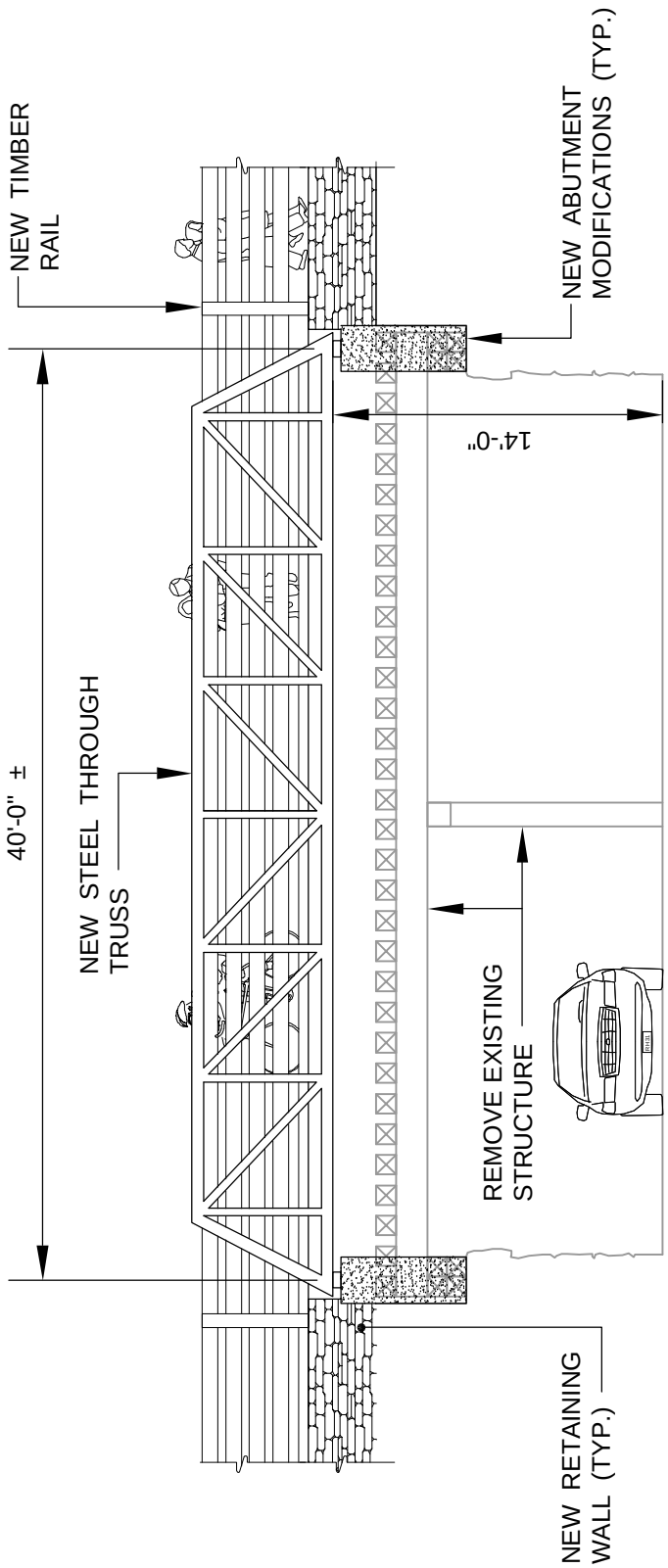
WELL AVENUE BRIDGE

FIGURE 6



ALTERNATIVE 2 - ELEVATION

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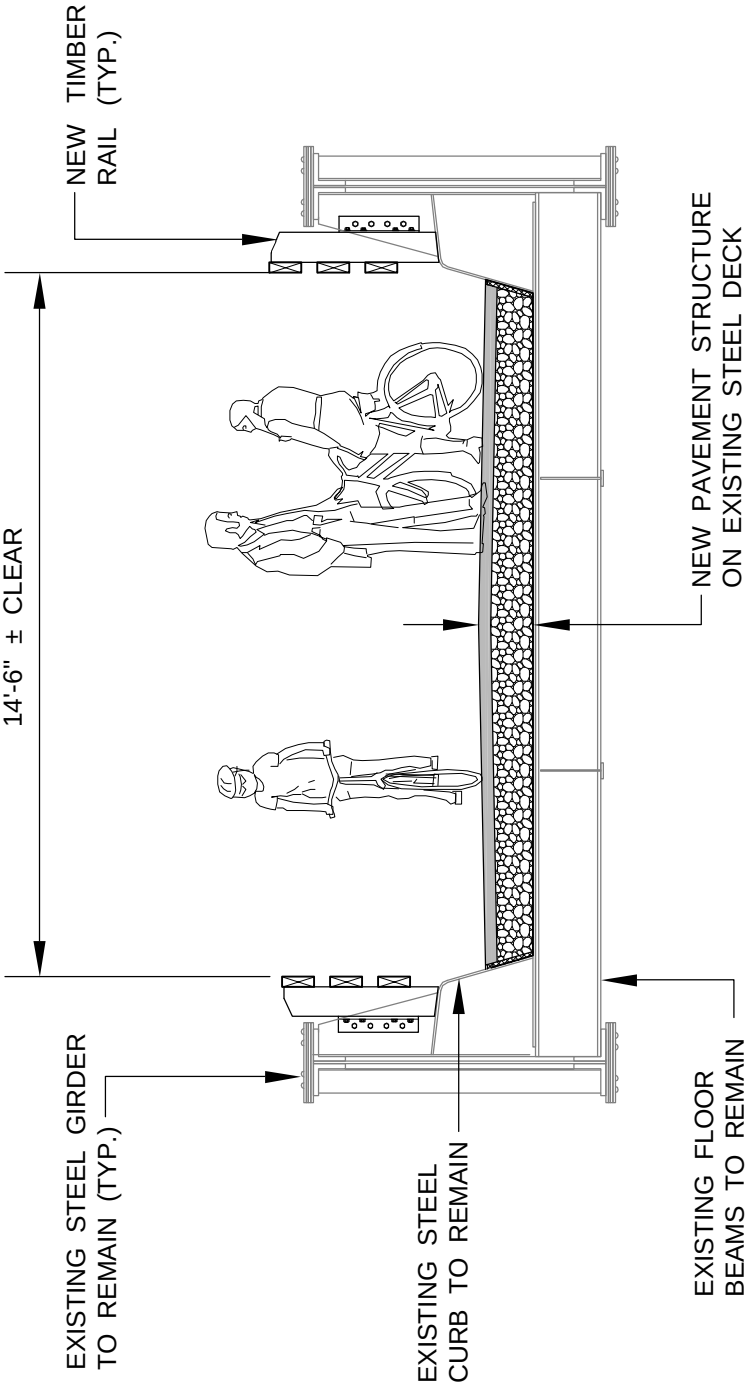
WELL AVENUE BRIDGE

FIGURE 7



SECTION

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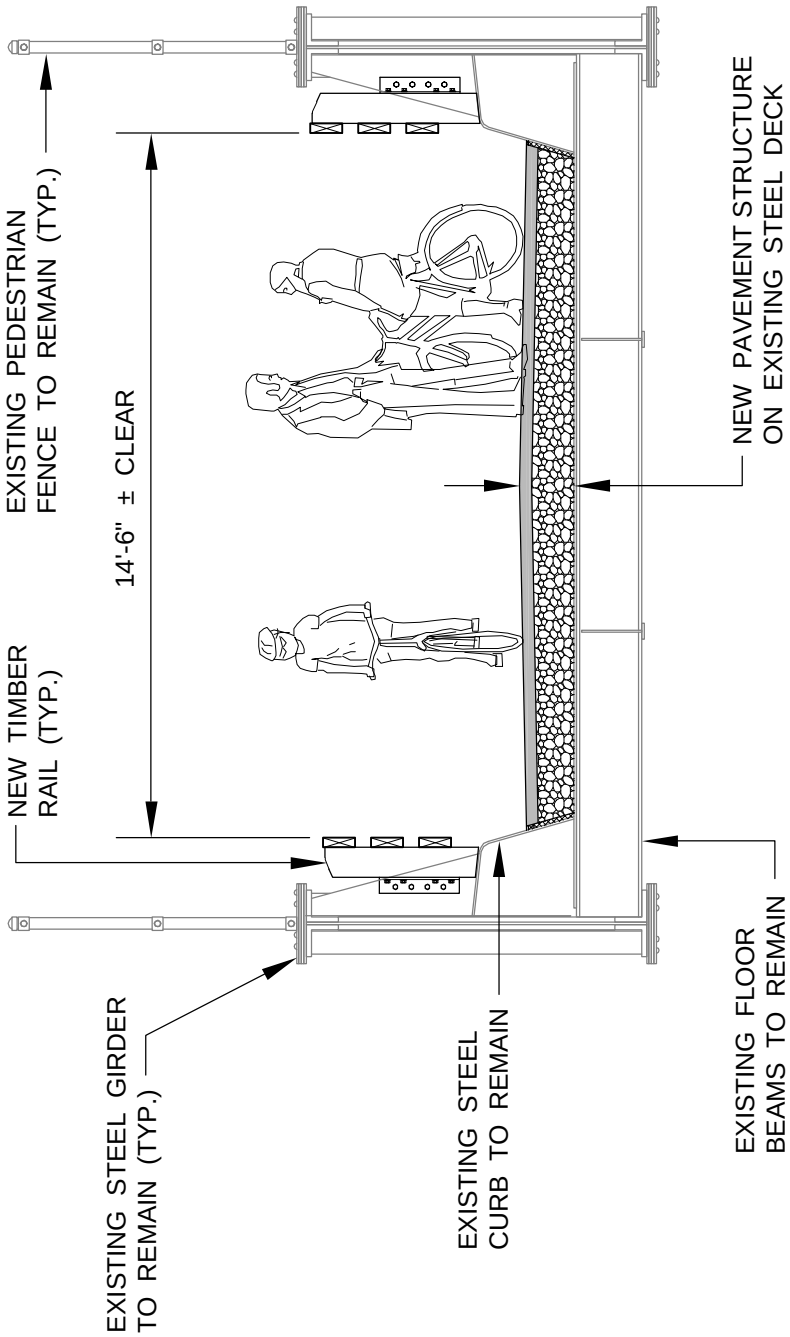
WELLINGTON AVENUE BRIDGE

FIGURE 8



SECTION

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I - 95 OVERPASS

FIGURE 9

SEGMENT 2

Description:

The area studied for this approximate 2,500-foot segment of proposed path begins on the eastern edge of Forest/Linden Avenues. It continues in a southerly direction between Harper and Allen Avenues, crosses Hemlock Avenue and Hamilton Road, and proceeds to enter the Pawtuxet River Reservation that borders on the rail's right-of-way southern limit. Segment 2 ends at the edge of Marine Drive, just prior to crossing over the Pocasset River on the abandoned rail line. Figure 10, the Segment 2 Plan, shows the segment's location and its approximate project limits.

Existing Conditions:

Most of the 37 residential and one commercial properties that are adjacent to the proposed path within this segment are located to its north.

Access has been blocked at a few points along the corridor between Harper and Allen Avenues. Fences have been put up at Linden Avenue and Hemlock Avenue, denying the right-of-entry to the abandoned railway. Within this same area, landscaped areas, gardens, lawn and play equipment, have been installed along the property lines and within the rail line right-of-way. (Photos 11, 12).

Photo 11. Looking West from Forest/Linden Avenues

Photo 12. Looking East From Hemlock Avenue

After crossing Hemlock Avenue and continuing south, the proposed Shared Use Path runs alongside the Pawtuxet River Reservation. The reservation is comprised of lowland vegetation and serves as a natural habitat for birds and other wildlife native to the area. This portion of the segment is in a very remote, secluded and wooded territory. There are unimproved walking paths on and adjacent to

the abandoned Pontiac Secondary Rail Line (Photo 13). No railroad rails remain except at the road crossings and there is only some scattered ties left in some sections of this segment. This portion of Segment 2, through the Pawtuxet River Reservation, provides a scenic walk that follows along the river's edge (Photo 14). The property owners located to the north of the path in this part appear to retain their rightful property lines and have kept clear of the railroad right-of-way. The grades get steeper on the southern slopes of the proposed route as it advances into the reservation towards the cemetery located off of Hamilton Road.

Photo 13. Looking West From Hemlock Avenue, Entering The Pawtuxet River Reservation

Photo 14. In The Pawtuxet River Reservation

From the cemetery and continuing south, the proposed path approaches the City of Cranston's pumping station, located on Marine Drive (Photo 15). The rail corridor is severely overgrown and impassable for an approximate 500 feet before reaching Marine Drive (Photo 16).

Photo 15. City Of Cranston Pumping Station On Marine Drive/Pontiac Avenue

Photo 16. Looking East From Marine Drive At Path

Proposed Recommendations:

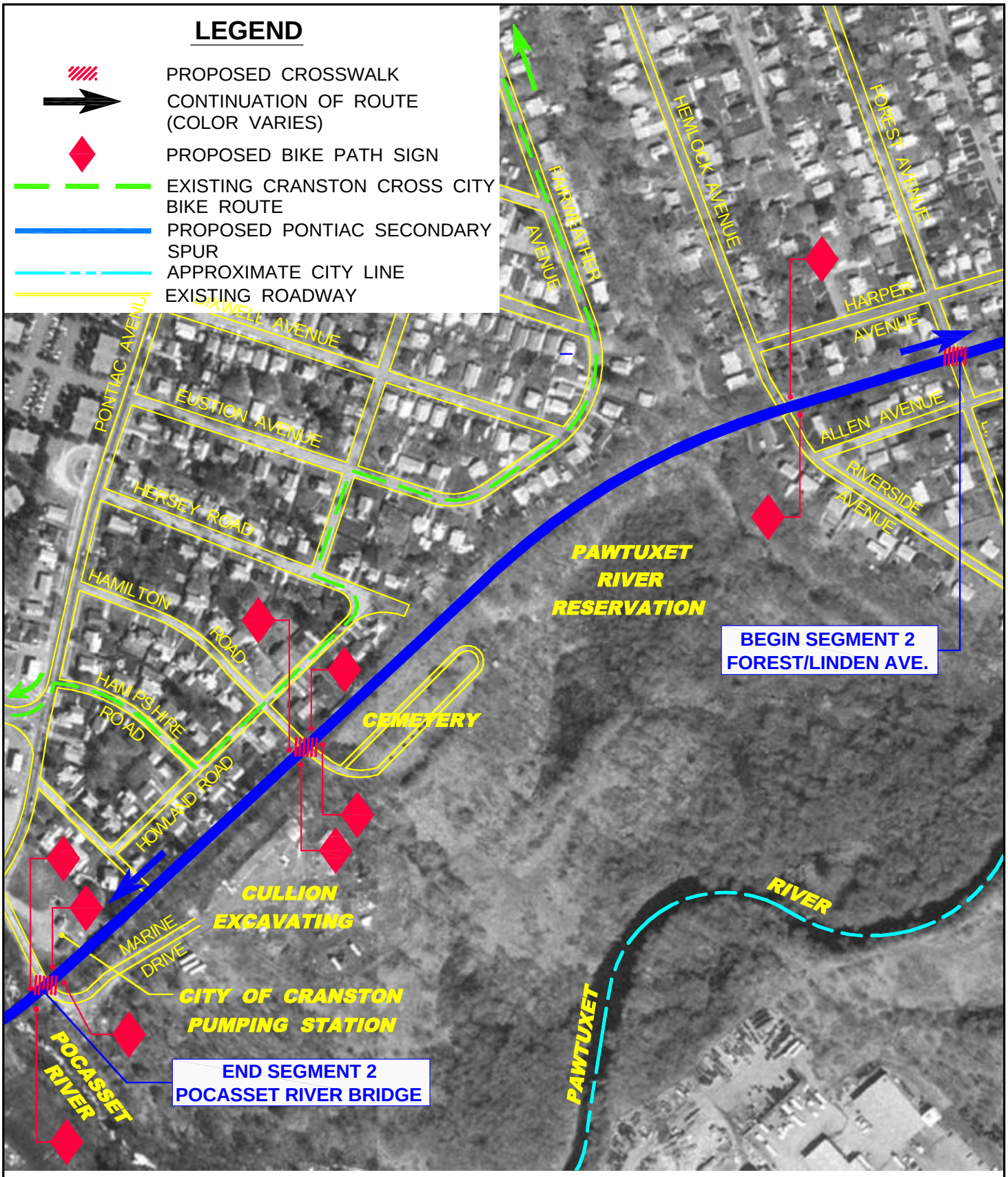
In order to provide a continuous Shared Use Path in this segment, many of the encroachments described earlier would need to be removed.

Additionally, the debris that exists within the right-of-way limits of the proposed path throughout this segment must be removed and disposed of properly.

The area that passes through the reservation requires extensive clearing and cleaning of the thick and dense overgrowth of trees, plant life, and vegetation. This is also the case in the area described in the existing conditions just north of Marine Drive.

Proposed typical crosswalk and bike signage are at locations on the road crossings and path as shown on Figure 10, the Segment 2 Plan.

The opinion of probable cost for the implementation of the proposed bicycle facility within this segment is approximately $93,000. A breakdown of the associated items and costs to build this section of the proposed Pontiac Secondary Bike Path project is provided in the Appendix E. The opinion of probable cost does not include the costs related with required environmental permitting efforts or property right-of-way acquisitions.



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Cranston, Rhode Island

SEGMENT 2

FIGURE 10

SEGMENT 3

Description:

The area studied for this approximate 2,000-foot segment of proposed Shared Use Path along the abandoned rail line begins at the eastern side of Marine Drive and continues in a southerly direction where it proceeds to pass over the Pocasset River on a timber trestle bridge. After the bridge, the proposed Pontiac Secondary Bike Path continues by the Cranston League for Cranston's Future (CLCF) site and then continues to Pontiac Avenue. After crossing this two-lane road, the path traverses between the Greylawn Food Inc. that fronts Pontiac Avenue and the backyards of the homeowners with parcels whose frontage is on Harvard Street. Segment 3 ends at the eastern end of Zinnia Drive. Figure 11, the Segment 3 Plan, shows the segment's location and its approximate project limits. In Technical Paper No. 130, the Rhode Island Department of Administration, Division of Planning, has classified Pontiac Avenue as a Minor Arterial (Urban) facility.

Existing Conditions:

The approach to the bridge from the east after crossing Marine Drive and the route continuing west from the bridge heading towards the CLCF is overrun with thick undergrowth, weeds, large bushes, and tall grass (Photo 17). The bridge is not visible from Marine Drive.

Photo 17. Looking West Along Bridge Over The Pocasset River

Photo 18. Pocasset River Bridge

The railroad bed traverses over the Pocasset River on a timber trestle bridge about 480 feet east of the Pontiac Avenue at-grade crossing (Photo 18). Supported by seven timber bents, the existing structure spans approximately 63 feet. The substructure is comprised of timber back walls,

retaining walls, and bents that are supported on timber blocks, caps, and piles. The superstructure is comprised of two heavy timber 3-ply (8"x16" timbers) stringers that are super elevated at an approximate 4% grade. No utilities are carried on the structure.

In general, the bridge is in poor condition. The railroad ties are in poor condition, with some of them missing, creating a treacherous crossing situation. The timber components of the substructure are in disrepair and the timber back wall and retaining wall on the west end are severely rotted and failing. Two channels have been bolted to either side of one of the stringers close to the east end of the structure in what appears to be an effort to repair the center ply that has become badly decayed. (Photos 19, 20).

Photo 19. View From Under The Pocasset River Bridge

Photo 20. Pocasset River Bridge Abutment

Three bents are located within the riverbed. Both the tops and bottoms of the vertical members that lie in the water are decomposed. Storm debris has accumulated against the piers on the upstream side.

The exact date of the bridge's construction is unknown. However, it is apparent that repairs have been made on it throughout its existence.

After crossing Pontiac Avenue, the proposed path runs between the backs of the Greylawn Food, Inc. and homes lining Harvard Street. This segment is thickly vegetated although it is evident that

the track is still used as a walking path. The majority of homeowners along this stretch have installed fencing along their property lines. The slope from the railroad bed's northern edge to the property lines is on a steep upgrade (Photo 21).

Photo 21. Looking South Along Path behind Greylawn Food Inc. On Pontiac Avenue

Photo 22. Cranston's League For Cranston's Future

There are no railroad rails although there are occasional ties remaining along this segment. Rails are still embedded in the pavement at the CLCF parking lot (Photo 22). The rails have been removed and the surface repaved on Pontiac Avenue and Marine Drive.

Proposed Recommendations:

With regards to the Pocasset River Bridge, approximately 40% of the timbers need to be replaced. Even though the proposed utilization will cause a reduced loading condition, many critical substructure members will require replacement. The failure of these members would have undesirable effects on the appearance and future maintenance of the structure. Therefore, two alternatives are considered for the improvement to this structure.

Alternative 1 investigates the prospect of repairing the existing timber structure. A more comprehensive analysis of the structure under the new loading conditions would be necessary for a proper design. The comprehensive analysis would determine if there are members that could be reduced or omitted during repairs. For purposes of this report, it is assumed that members will be replaced in kind. Since the condition of the pile foundations is unknown, it is recommended that the timber back walls, retaining walls, and the timber block footing be replaced with concrete as shown in Figure 12, the Pocasset River Bridge – Alternative 1 – Elevation Plan. Additionally, the railroad

ties will be removed and a timber deck and railing system installed. The deck would be shimmed in order to remove the undesirable effects of the existing super elevation.

Alternative 2 involves replacing the entire structure using a single span bridge with concrete abutments. The proposed superstructure design entails the placement of timber glulam beams with a corresponding traverse glulam deck, and an appropriate timber deck railing arrangement. Figure 13, the Pocasset River Bridge – Alternative 2 – Elevation Plan details this proposal. Removing the three piers from the water would allow for the water to flow freely, eliminating the accumulation of debris that currently occurs. The associated continuous maintenance issues that occur with a timber structure in water would no longer be a problem with this alternative.

The opinion of probable costs for each of these alternatives, along with a breakdown of associated items and costs, can be found in Appendix D. The estimated cost to complete the improvements as described for Alternative 1 is $260,000. Compared to the estimated cost of $285,000. to build a new bridge for Alternative 2. Because the cost difference is negligible and considering the ongoing maintenance costs that would be involved with choosing the improvements as proposed in Alternative 1, Alternative 2 is recommended.

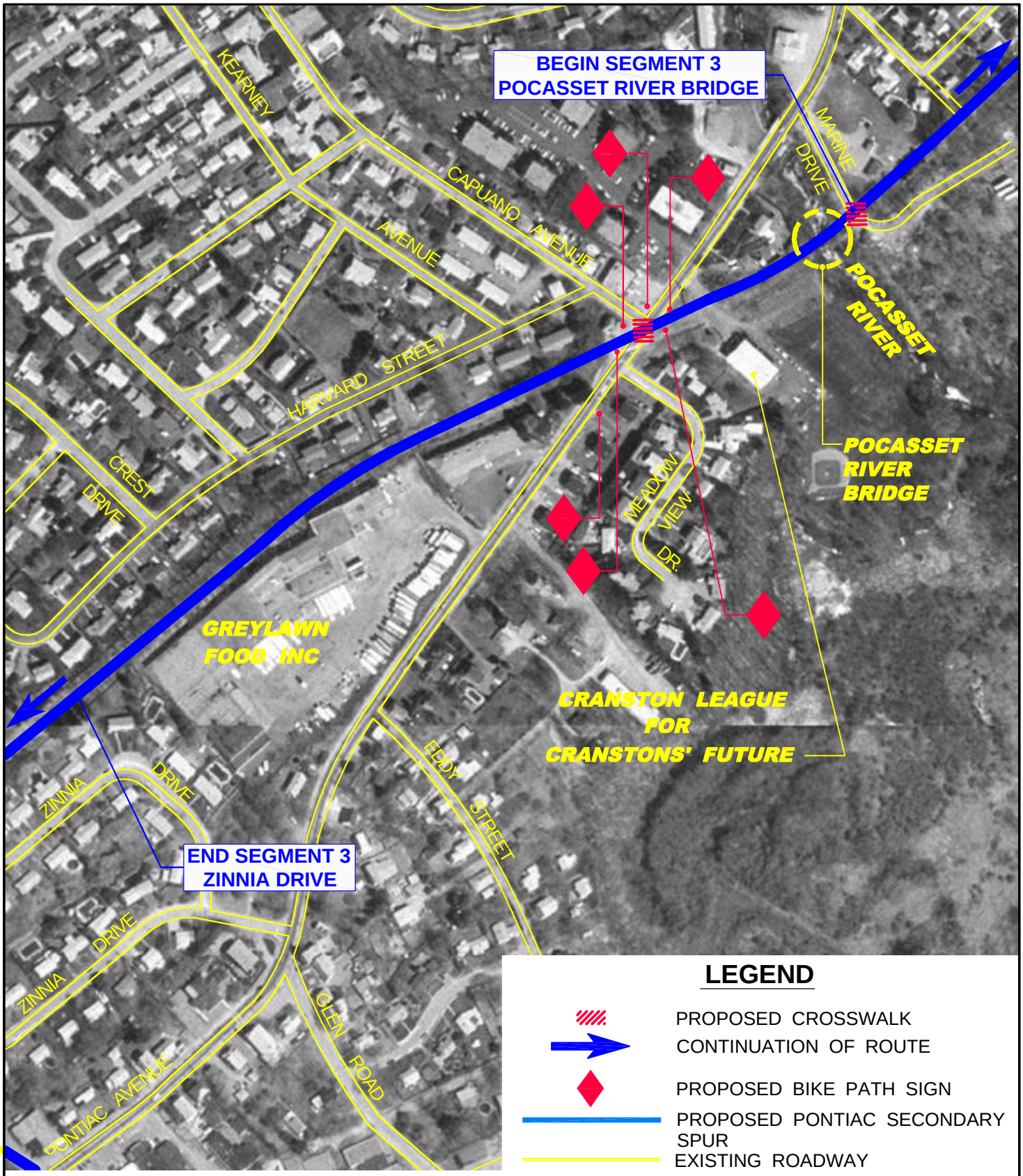
As the path transitions away from the Pocasset River, it abuts 18 residential and 3 industrial/commercial properties to the north and south of its proposed location along the Pontiac Secondary Rail Line.

Typical crosswalk and sign arrangements are proposed at the crossing of Marine Drive, the CLCF's parking lot, and Pontiac Avenue. Also, there may be an opportunity to create a joint development of a parking lot at this location for both bike path users and CLCF participants. These are to be installed at the locations as indicated on Figure 11, Segment 3 Plan. Before proceeding to final design, it will be necessary to conduct a signal warrant analysis at the Pontiac Avenue/proposed Shared Use Path intersection to determine if a traffic signal is necessary (Photo 23).

Photo 23. Pontiac Avenue Crossing

Clearing and grubbing will be extensive along two sections of the path, from Marine Drive to the bridge and westerly from Pontiac Avenue to the end. The existing conditions section has indicated that these areas are quite overgrown.

The opinion of probable cost for the implementation of the proposed bicycle facility within this segment, including bridge expenditures, is approximately $443,000. A breakdown of the associated items and costs to build this section of the proposed Pontiac Secondary Bike Path project is provided in the Appendix E. The opinion of probable cost does not include the costs related with required environmental permitting efforts, property right-of-way acquisitions, or signalization.



LEGEND

- PROPOSED CROSSWALK
- CONTINUATION OF ROUTE
- PROPOSED BIKE PATH SIGN
- PROPOSED PONTIAC SECONDARY SPUR
- EXISTING ROADWAY

Scale: 1"= 300'±

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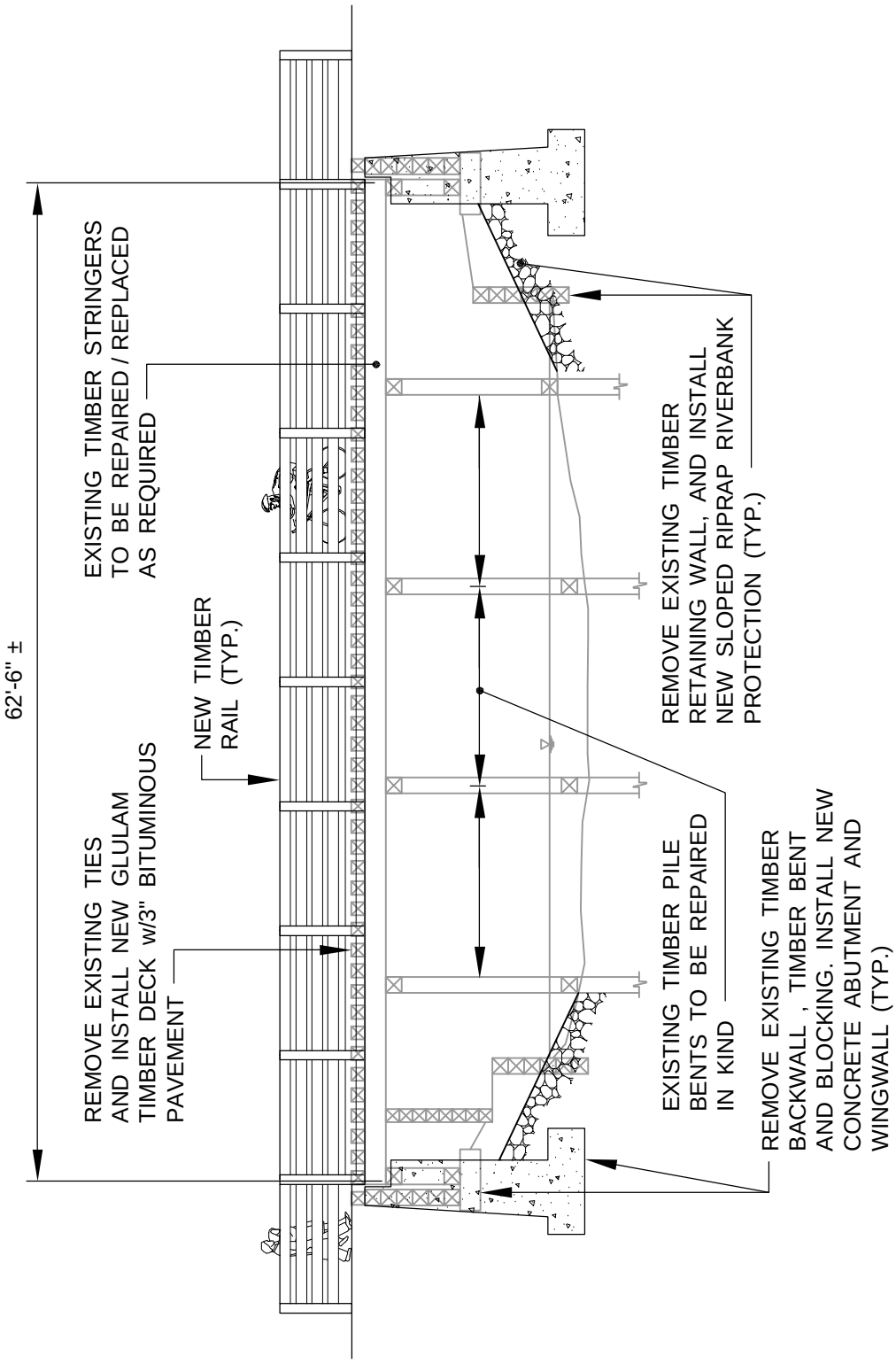
SEGMENT 3

FIGURE 11



ALTERNATIVE 1 - ELEVATION

Scale: 3/32"=1'-0"

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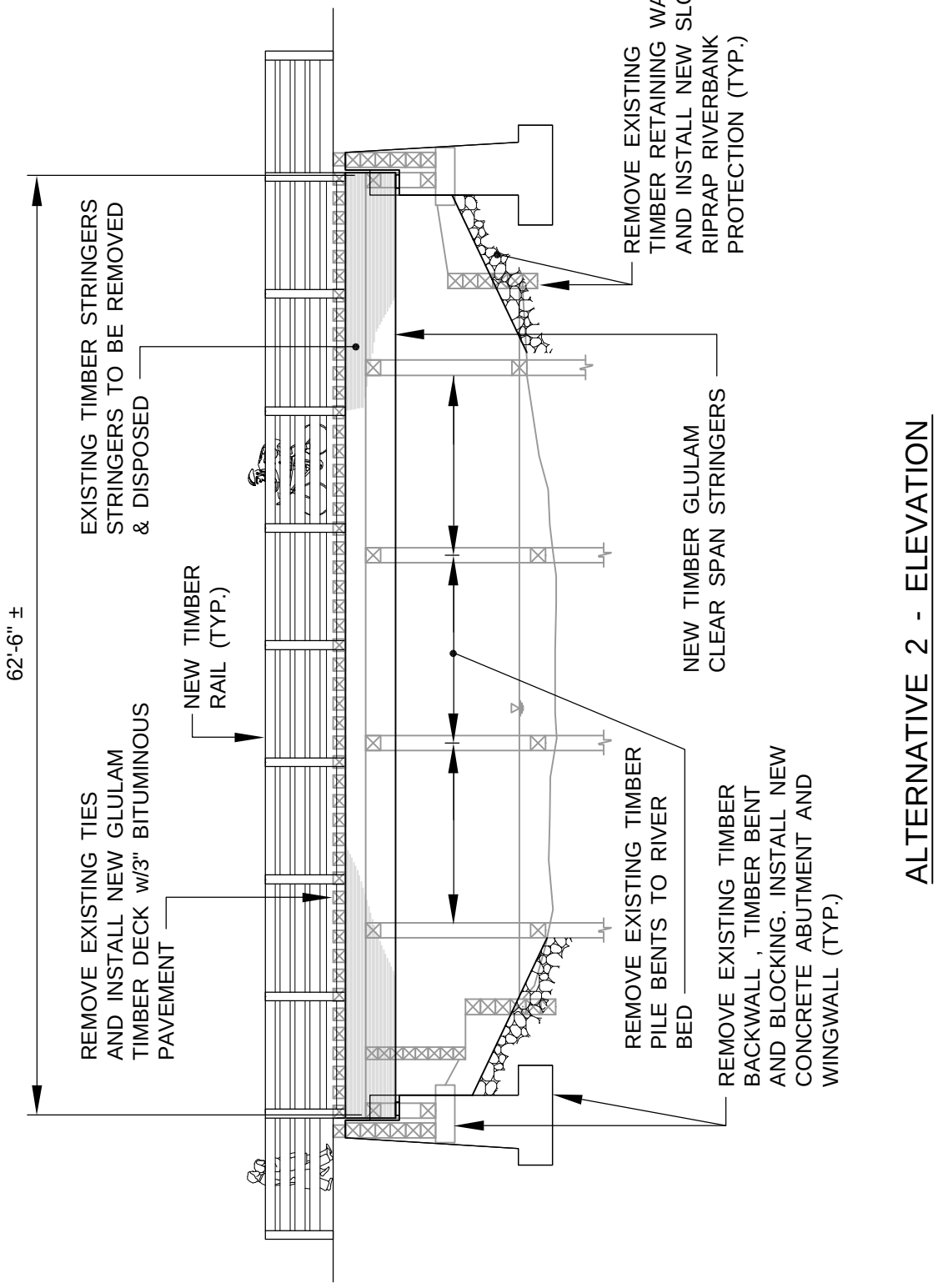
POCASSET RIVER BRIDGE

FIGURE 12



ALTERNATIVE 2 - ELEVATION

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POCASSET RIVER BRIDGE

FIGURE 13

SEGMENT 4

Description:

The area studied for this approximate 3,000-foot segment of proposed path begins at the approximate eastern limit of the Zinnia Drive, continues south towards Sockanosset Cross Road, then continues in a southerly direction, ending at the Route 37 underpass. Figure 14, the Segment 4 Plan, shows the segment's location and its approximate project limits. In Technical Paper No. 130, the Rhode Island Department of Administration, Division of Planning, has classified Sockanosset Cross Road as an Urban Collector facility and Route 37 as an Other Freeway/Expressway (Urban). Sockanosset Cross Road is a City owned and maintained road, Route 37 is State owned and maintained.

Existing Conditions:

There are a total of 20 parcels along Zinnia Drive and Delwood Road that abut the railroad's right-of-way in this segment. This section is accessible and not nearly as overgrown as the previous segments. It looks as if it is regularly mowed and maintained by the neighboring property owners. Wood fences have been installed on the property lines along the slope limits on each side of the abandoned rail line (Photo 24).

Photo 24. Path Between Zinnia Drive and Delwood Road

Photo 25. Providence Water Supply Board's Right-Of-Way

Once past the residential area, the grade of the corridor levels out as it approaches the Providence Water Supply Board's right-of-way, Sockanosset Cross Road and Route 37 from the east (Photo 25).

Sockanosset Cross Road is a direct link to Garden City, a commercial center, from industrial, municipal, and residential areas. This is a heavily commercialized area.

As noted in the Overview section of this report, after crossing Sockanosset Cross Road and before passing under Route 37, there is evidence that this property has been transferred from the State (Photo 26). Davol and Citizens Bank occupy the buildings on the land to the west of the corridor. An easement would be necessary at this location, for the successful continuation of the proposed Shared Use Path, to the east of the entrance to these businesses, alongside the driveway towards the Route 37 underpass (Photos 27, 28).

Photo 26. At Sockanosset Cross Road, Looking South Towards Route 37

Photo 27. At Davol Looking North Towards Sockanosset Cross Road

Photo 28. Route 37 Underpass

There are no railroad rails along this segment except at the Sockanosset Cross Road crossing. There are some ties that remain on parts of the segment.

Proposed Recommendations:

A Shared Use Path that runs alongside the edges of the DOC maximum-security facility located in Segment 5 may create security issues that could possibly eliminate the building of a path in that area. The option of a proposed Signed Shared Roadway along Pontiac Avenue, labeled and discussed as Alternative A in the remainder of this report, is presented for consideration as a

possible continuation of the proposed bicycle network should the path be unable to go by the DOC in this area.

Alternative A would utilize the Providence Water Supply Board right-of-way that exists north of Sockanosset Cross Road and west of Pontiac Avenue. This route would exit on Pontiac Avenue, approximately 750 feet north of the intersection with Sockanosset Cross Road, be signed along Pontiac Avenue, to Kenney Drive, and connecting to the abandoned Pontiac Secondary Rail Line in the Howard Industrial Park at Sharpe Drive. To successfully implement this alternative it would require that the necessary easement be obtained from the Providence Water Supply Board. The alternative in Segment 4 is shown on Figure 14.

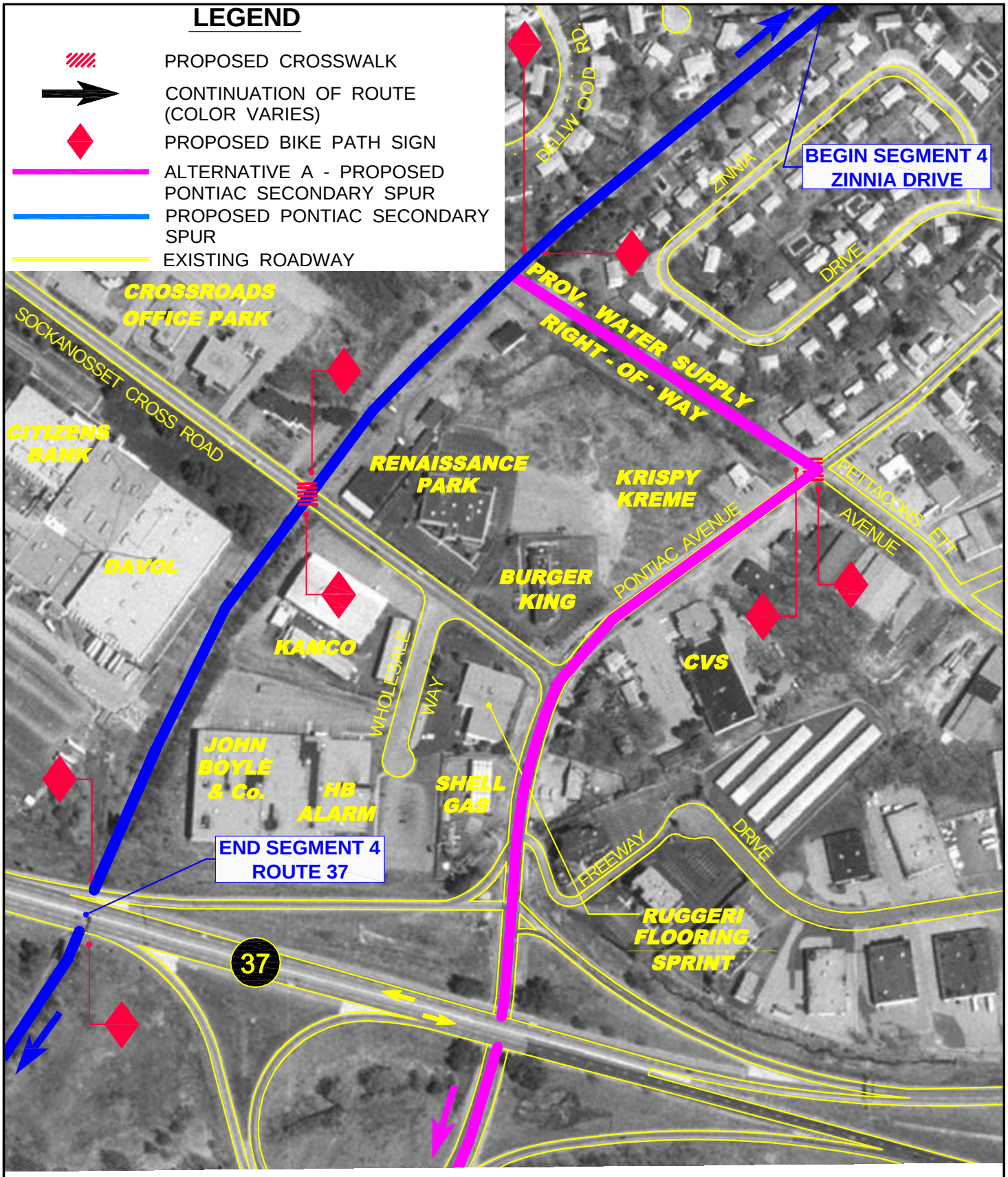
Pontiac Avenue has been designated as a "Suitable Road" in the map *"A Guide to Cycling in the Ocean State"*, prepared and distributed by RIDOT. To implement this Alternative A route, appropriate signs would need to be installed along Pontiac Avenue at the locations as shown on Figure 14, the Segment 4 Plan.

Before proceeding to final design, it would become necessary to conduct a traffic signal warrant analysis at the Pontiac Avenue/proposed Signed Shared Roadway crossing in order to determine if signalization is warranted. It would also be required to evaluate Pontiac Avenue's roadway conditions to determine if, in fact, the roadway geometry and use is acceptable to support a Signed Shared Roadway designation.

Clearing and grubbing of the area would be required from the Zinnia Drive cul-de-sac to the Providence Water Supply Board's right-of -way.

The opinion of probable cost for the implementation of the proposed Shared Use Path within this segment is approximately $107,000. A breakdown of the associated items and costs to build this section of the proposed Pontiac Secondary Bike Path project is provided in the Appendix E. The preliminary opinion of probable cost does not include the costs related with required environmental permitting efforts, property right-of-way acquisitions, or signalization. The opinion of probable cost to implement the Signed Shared Roadway Alternative A in this segment is $3,000. and its breakdown is provided in Appendix F.

It is possible that the Providence Water Supply Board's right-of-way could be utilized to the west of the Pontiac Secondary abandoned rail line crossing as a means to connecting the proposed bike path to the Garden City area. The proposed connection is depicted on Figure 15, Garden City Connection. This bike path would provide the bicyclist with access to other sections of the City. Parking is available at the Garden City Shopping Center, on Hillside Road. As such, this arrangement would allow for convenient entry to the proposed Pontiac Secondary Bike Path from this location. To build this Garden City connection it would require that the necessary easement be obtained from the Providence Water Supply Board.



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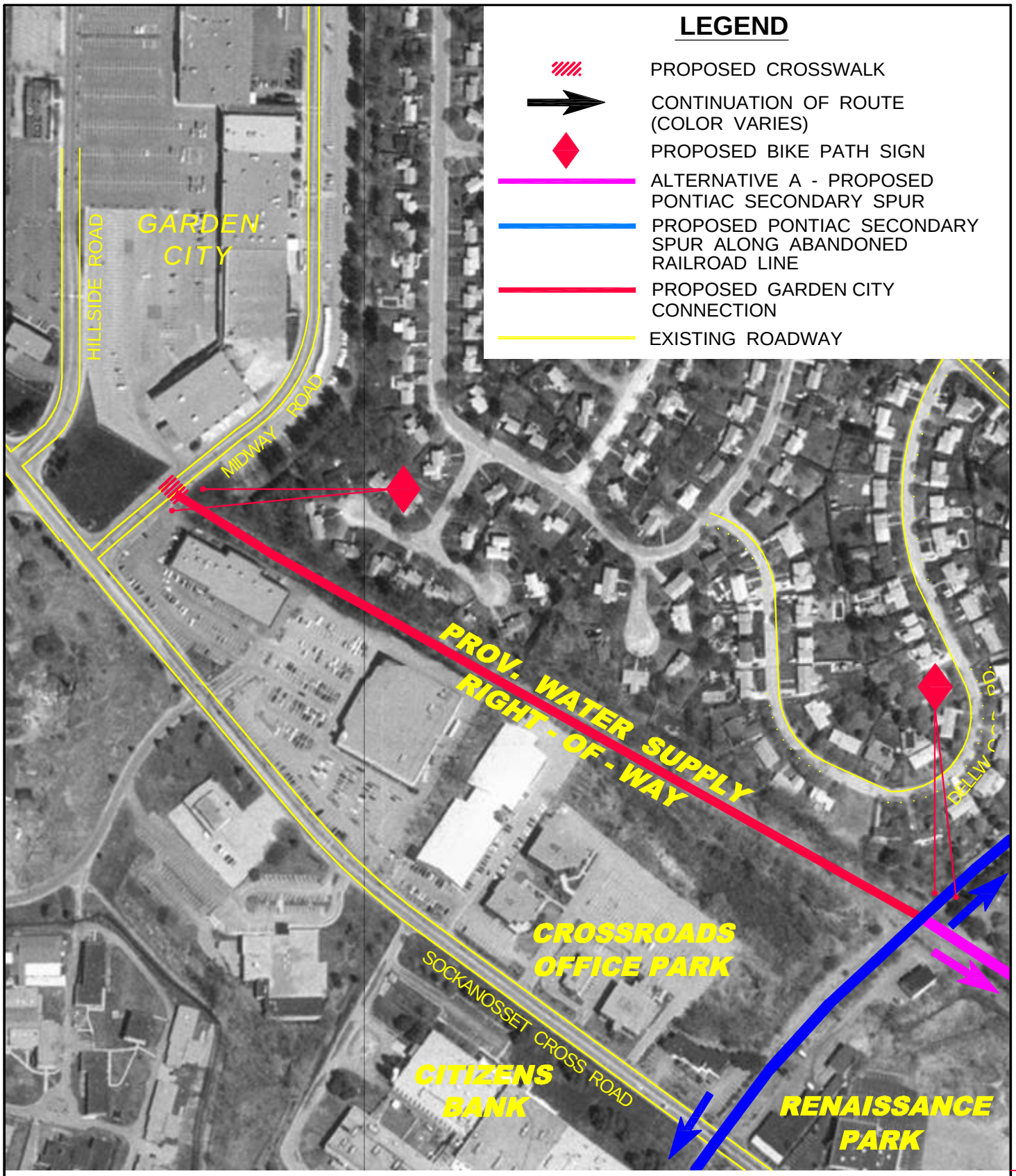
PONTIAC SECONDARY SPUR
Cranston, Rhode Island
SEGMENT 4

FIGURE 14



Scale: 1"= 300'±

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8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
401 - 334 - 4100

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METROPOLITAN PROVIDENCE
BICYCLE FACILITIES
SITE ASSESSMENT PROJECT
PONTIAC SECONDARY SPUR
Cranston, Rhode Island
GARDEN CITY CONNECTION

FIGURE 15

SEGMENT 5

Description:

The area studied for this approximate 2,500-foot segment of the proposed Signed Shared Roadway/Shared Use Path is from Route 37 to Pontiac Avenue. Figure 16, the Segment 5 Plan, shows the segment's location and its approximate project limits.

Existing Conditions:

The abandoned Pontiac Secondary Bike Path passes under Route 37 and continues south in a wooded area before arriving at the State of Rhode Island's Department of Correction (DOC), maximum-security facility, after going through a section of dense vegetation. Only a narrow access road separates the railroad corridor from the fences of the prison (Photo 29).

Photo 29. Department of Corrections Maximum-Security Facility

The bike path continues along the edges of other State facilities, including the DOC Central Distribution Center and the Rhode Island Lottery Commission. It remains close to other State institutions that are housed at the John O. Pastore Center.

The railroad line heads for the Pontiac Avenue underpass and towards the Howard Industrial Park.

Proposed Recommendations:

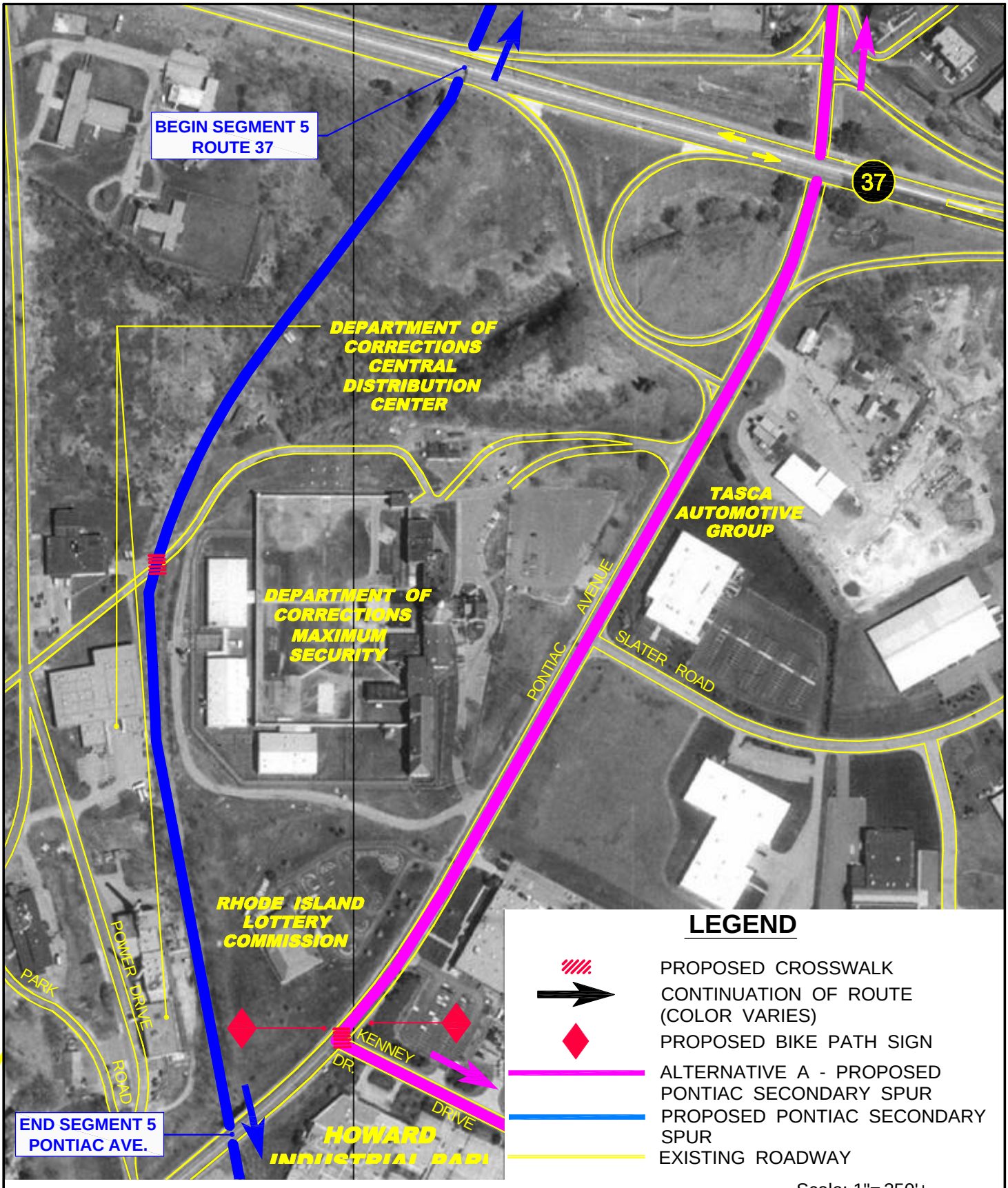
General clearing and grubbing would be required in the wooded and densely vegetated sections of this segment, from the Route 37 underpass south to the access road.

As discussed in the Proposed Recommendations section of Segment 4, a Shared Use Path that runs alongside the edges of the DOC maximum-security facility in this segment may create security issues that could possibly eliminate the building of a path here. The option of a proposed Signed Shared Roadway along Pontiac Avenue that has been labeled and discussed as Alternative A would

continue to be signed in this segment along Pontiac Avenue, to Kenney Drive, in the Howard Industrial Park.

Pontiac Avenue has been designated as a "Suitable Road" in the map *"A Guide to Cycling in the Ocean State"*, prepared and distributed by RIDOT. To implement this proposed and recommended route, appropriate signs would need to be installed at the locations as shown on Figure 16, the Segment 5 Plan. Before proceeding with final design, an investigation would have to be conducted that assesses if Pontiac Avenue's geometry and use is acceptable to support a Signed Shared Roadway designation.

The opinion of probable cost for the implementation of the proposed Shared Use Path within this segment is approximately $94,000. A breakdown of the associated items and costs to sign this section of the proposed Pontiac Secondary Bike Path project is provided in the Appendix E. The opinion of probable cost does not include the costs related with required environmental permitting efforts, property right-of-way acquisitions, or signalization. The opinion of probable cost to implement the Signed Shared Roadway Alternative A in this segment is $2,000 and its breakdown is provided in Appendix F.



LEGEND

- PROPOSED CROSSWALK
- CONTINUATION OF ROUTE (COLOR VARIES)
- PROPOSED BIKE PATH SIGN
- ALTERNATIVE A - PROPOSED PONTIAC SECONDARY SPUR
- PROPOSED PONTIAC SECONDARY SPUR
- EXISTING ROADWAY

Scale: 1"= 350'±

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METROPOLITAN PROVIDENCE BICYCLE FACILITIES SITE ASSESSMENT PROJECT

PONTIAC SECONDARY SPUR
Cranston, Rhode Island
SEGMENT 5

FIGURE 16

SEGMENT 6

Description:

The area studied for this approximate 3,000-foot segment of proposed Signed Shared Roadway/Shared Use path is from the Pontiac Avenue underpass to Sharpe Drive in the Howard Industrial Park. The segment then enters into the abandoned Pontiac Secondary Rail Line for approximately 600 feet south of Sharpe Drive, ending close to the Ross-Simons facility. Figure 17, the Segment 6 Plan, shows the segment's location and its approximate project limits.

Existing Conditions:

Photo 30. Looking North On Sharpe Drive Towards Route 37 Underpass, At Swarovski

The abandoned Pontiac Secondary Rail Line continues in a southerly direction after passing under Route 37. It enters an industrial area, the Howard Industrial Park, after the underpass. As mentioned in the Overview section of this report, there has been a transfer of a portion of the rail's right-of-way to Swarovski America Ltd. in this segment, from the underpass to Sharpe Drive. Swarovski is currently constructing and expanding its facilities at this location (Photo 30).

For approximately the beginning 2,000 feet of the section of the path that is proposed south from Sharpe Drive, the abandoned Pontiac Secondary Bike Path railroad corridor is difficult to locate in the field. This is due to the fact that this area lies in a very thick and densely forested section.

Proposed Recommendations:

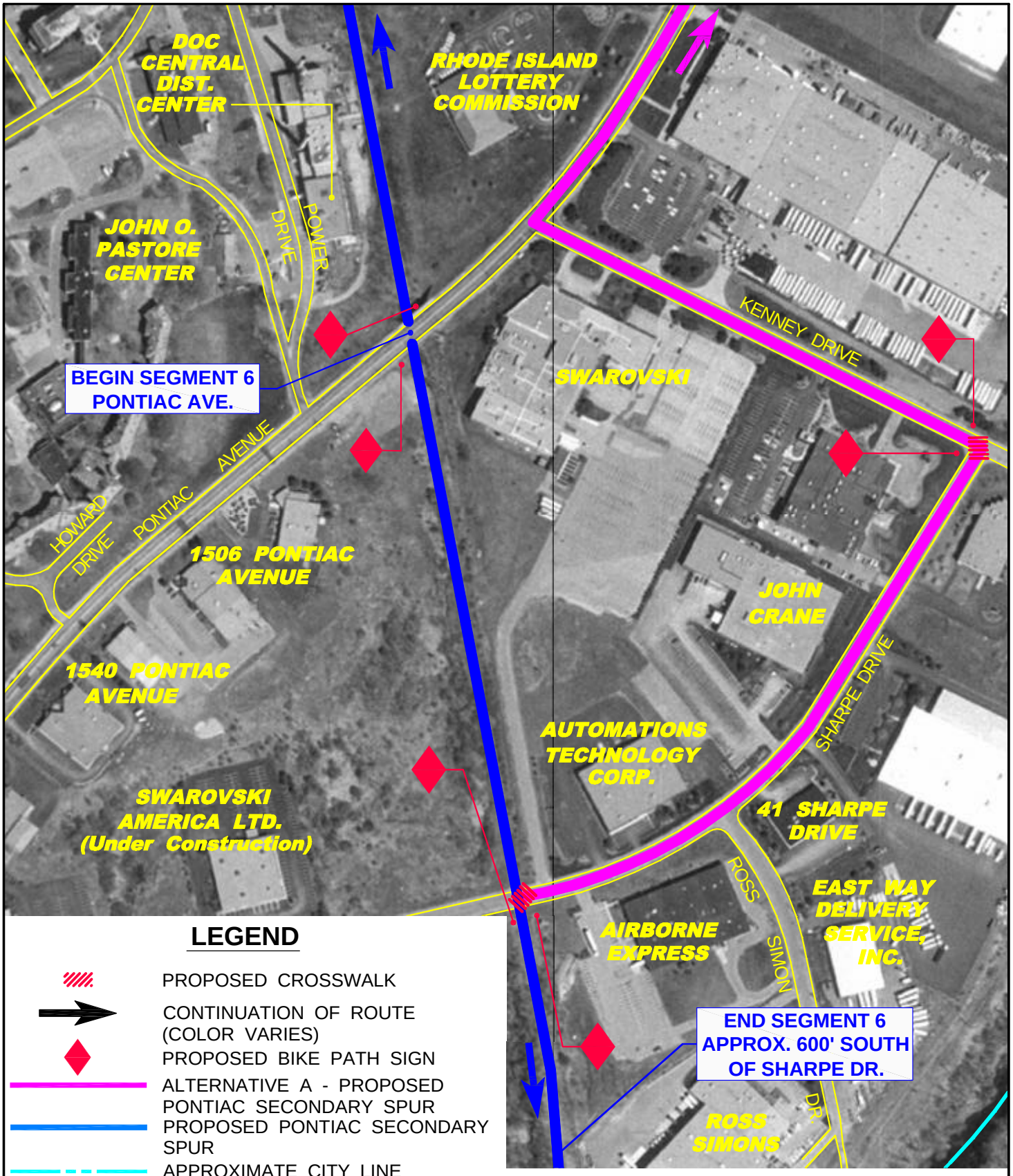
To remain on the Pontiac Secondary abandoned rail line in this segment with the proposed Shared Use Path, the necessary easements would have to be acquired from the Swarovski Corporation.

To stay on-road to avoid the DOC, the Alternative A Signed Shared Roadway as described in Segments 4 and 5 along Pontiac Avenue would continue, turning onto Keeney Drive and Sharpe Drive within this segment. It would meet the abandoned rail line on Sharpe Drive.

To implement the Signed Shared Roadway alternative, appropriate signs would be installed at the locations as shown on Figure 17, the Segment 6 Plan. Before proceeding with final design, an investigation would have to be conducted that assures that these two roads, Keeney and Sharpe Drives, geometry and use are acceptable to support Signed Shared Roadway designations.

It is recommended that the abandoned railroad line south of Sharpe Drive be used as a Shared Use Path along this approximate 600 feet of this segment. Extensive clearing and grubbing would be required especially within this first portion of proposed path because of the extreme overgrown conditions that have been described in the existing conditions section.

The opinion of probable cost for the implementation of the proposed Shared Use Path within this segment is approximately $106,000. A breakdown of the associated items and costs to sign and build this section of the proposed Pontiac Secondary Bike Path project is provided in the Appendix E. The opinion of probable cost does not include the costs related with environmental permitting efforts, property right-of-way acquisitions, or signalization. The opinion of probable cost to implement the Signed Shared Roadway Alternative A in this segment is $3,000. and its breakdown is provided in Appendix F.



LEGEND

- PROPOSED CROSSWALK
- CONTINUATION OF ROUTE (COLOR VARIES)
- PROPOSED BIKE PATH SIGN
- ALTERNATIVE A - PROPOSED PONTIAC SECONDARY SPUR
- PROPOSED PONTIAC SECONDARY SPUR
- APPROXIMATE CITY LINE
- EXISTING ROADWAY

Scale: 1"= 300'±

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PONTIAC SECONDARY SPUR
Cranston, Rhode Island
SEGMENT 6

FIGURE 17

SEGMENT 7

Description:

The area studied for this approximate 2,500-foot segment of the proposed Shared Use Path begins approximately 600 feet south of Sharpe Drive in the Howard Industrial Park to the Cranston/Warwick City line, at Knight Street. Figure 18, the Segment 7 Plan, shows the segment's location and its approximate project limits.

Existing Conditions:

The beginning 2,000 feet section of the Shared Use Path that is proposed south from Sharpe Drive, the abandoned Pontiac Secondary Bike Path railroad corridor is difficult to locate in the field. This is due to the fact that this area lies in a very thick and densely forested section. The path runs alongside the Ross Simons building to its east towards the site of electric generators. To the west, the closed Capuano Landfill borders the path (Photo 31).

Photo 31. Electric Generators

As the path approaches Knight Street from the south after passing by the generators, the land becomes open and clear. It is apparent that it has recently been cleared; the railroad ties have been removed and are lying adjacent to the path. It looks as if vehicles currently use the path as an access road from Knight Street to the generators (Photo 32). Gravel and stone have been placed on some sections along the cleared path, noted mostly in the part just before Knight Street (Photo 33).

Photo 32. Looking North From Knight Street Towards The Electric Generators

Photo 33. Looking South To Knight Street

The final approximate 500 feet of the path before meeting Knight Street is in a very scenic and historically significant area. A State Institution Cemetery and the banks of the Pawtuxet River, along with trails and canoe access spots, are located directly to the east of the path (Photo 34).

Photo 34. State Institution Cemetery Along Edge of The Pawtuxet River

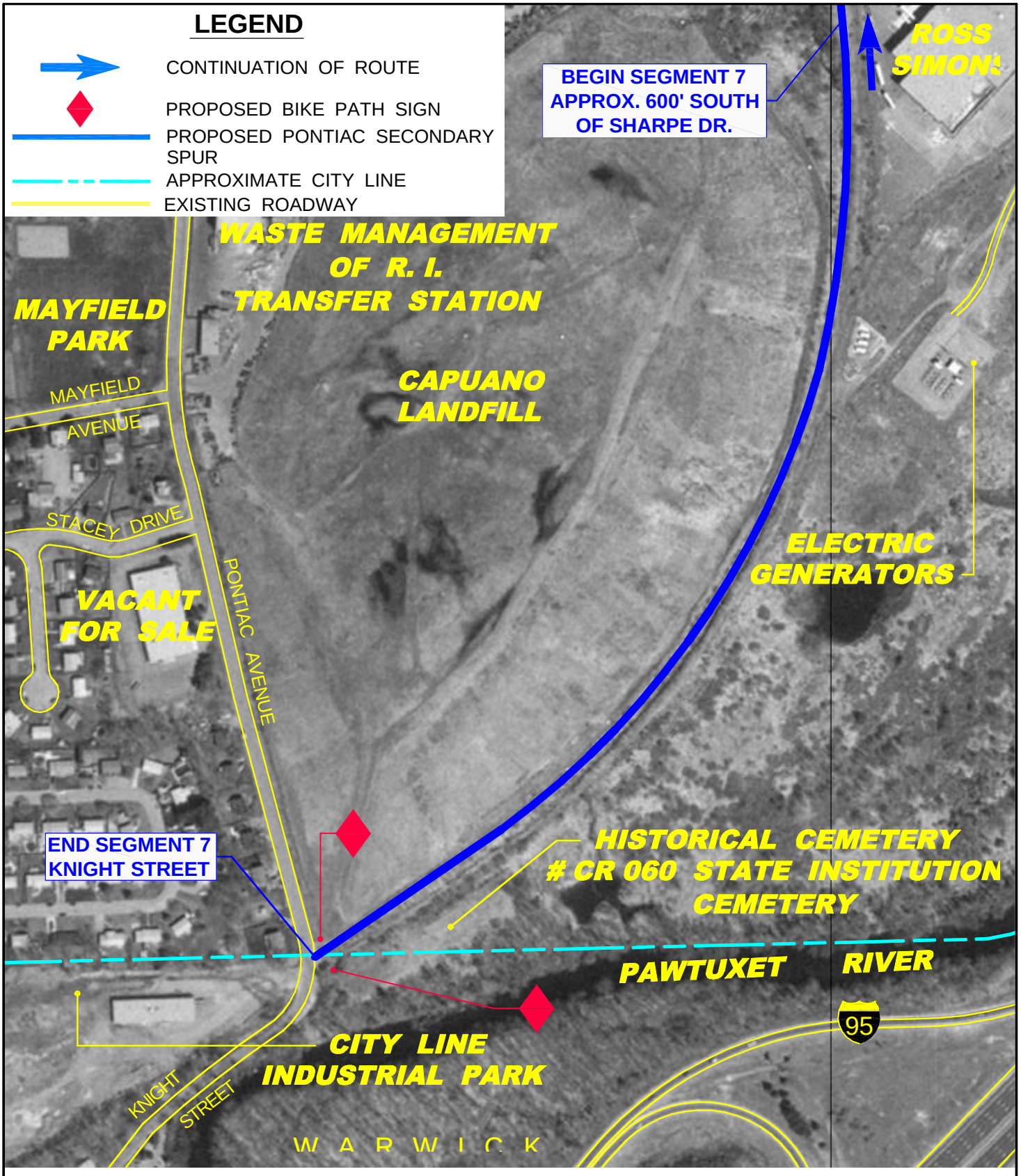
The end of the proposed Pontiac Secondary Bike Path is at the junction of Pontiac Avenue and Knight Street, on the Warwick-Cranston City line. At the end of the segment at the intersection with Knight Street, the road's horizontal alignment is on a curve that causes limited sight distance for vehicles approaching from either direction.

Proposed Recommendations:

It is recommended that the abandoned railroad line continue to be used as a Shared Use Path along this entire segment. Extensive clearing and grubbing would be required, especially within this first portion of proposed path because of the extreme overgrown conditions that have been described in the existing conditions section.

During final design it will become necessary to evaluate the substandard roadway conditions that exist at the joining of Knight Street and how it may affect the bike facility's treatment of its terminus.

The opinion of probable cost for the implementation of the proposed bicycle facility within this segment is approximately $93,000. A breakdown of the associated items and costs to build this section of the proposed Pontiac Secondary Bike Path project is provided in the Appendix E. The opinion of probable cost does not include the costs related with required environmental permitting efforts, property right-of-way acquisitions, or signalization.



Scale: 1"= 300'±

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METROPOLITAN PROVIDENCE BICYCLE FACILITIES SITE ASSESSMENT PROJECT

PONTIAC SECONDARY SPUR
Cranston, Rhode Island

SEGMENT 7

FIGURE 18

ENVIRONMENTAL PERMITTING

It will become necessary to address wetland impacts for portions of the final accepted recommended proposed Pontiac Secondary Bike Path.

Portions of the proposed Pontiac Secondary Bike Path are within the Rhode Island Department of Environmental Management (RIDEM) regulatory jurisdiction. RIDEM's *"Rules and Regulations Governing the Administration and Enforcement of the Freshwater Wetlands Act" April 1998,* would apply to the accepted and approved recommendations as presented in this report.

The RIDEM would coordinate with the Army Corps of Engineers (ACOE) Programmatic General Permit Program for required permits. The impacts to regulated wetlands include Area Subject to Storm Flowage (ASSF), Wetland Complex, Stream, Pawtuxet River, 50-foot Perimeter Wetland, 100-foot Riverbank Wetland, and 200-foot Riverbank Wetland.

Prior to proceeding into the design stage, it would be required to establish the location of the proposed alignment in the field. The associated wetland delineation, together with a field investigation, would be needed in this area. Exact location and size of the impacted adjoining wetland areas due to the construction of the path would be identified. As well, potential associated Perimeter or Riverbank Wetlands would need to be documented.

The proposed Pontiac Secondary Bike Path is located within the Pawtuxet River watershed. The Pawtuxet River and Bellefont Pond are the major water bodies to be found in the project area. According to the Rhode Island Geographic Information System (RIGIS), no rare species or endangered habitat are cited within the area of the proposed route.

The following is a breakdown of the potential RIDEM jurisdictional wetland impacts that could occur within each of the seven segment limits of the proposed bike facility.

- Segment 1 has no known jurisdictional wetland impacts.

- Within the limits of Segment 2 there are probable impacts to an unnamed stream located west of Riverside Avenue and a wetland complex on the south side of the rail line.

Extending from the wetland edges, the stream and wetland complex would have an associated 100-foot Riverbank Wetland and 50-foot Perimeter Wetland, respectively.

- Potential impacts to the Pocasset River and associated 200-foot Riverbank Wetland are within the project limits of Segment 3.

- There appears to be no known jurisdictional wetland impacts in Segment 4.

- Wetlands possibly impacted within Segment 5 include an unnamed stream and associated 100-foot Riverbank Wetland that passes under Pontiac Avenue, south of the Route 37 road overpass.

- Located to the east of the rail line, Segment 7 has potential impacts to an ASSF and a 50-foot Perimeter Wetland associated with a Wetland Complex. In addition, due to the close proximity of the Pawtuxet River that is located just south of the rail line near the Knight Street terminus, there are associated potential impacts to the 200-foot Riverbank Wetland.

At the time of final design, precise and acute designation of the wetland boundaries and impacts will be required. Necessary permits would also need to be obtained. The opinion of probable costs included in this report does not include the costs that would be associated with required environmental permitting efforts.

CONNECTION TO WASHINGTON SECONDARY BIKE PATH (WSBP)

Description:

In order to accomplish the design of a complete bicycle network facility, a connection from the end of the proposed Pontiac Secondary Bike Path that terminates at Knight Street, to the Washington Secondary Corridor Bike Path (WSBP) entrance at West Natick Road was reviewed (Photo 35).

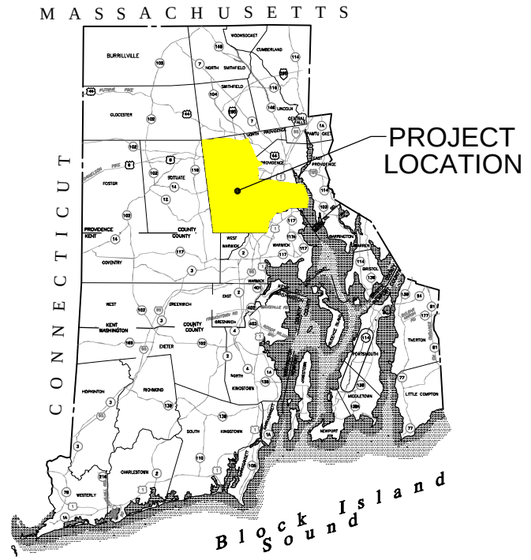
Photo 35. Washington Secondary Corridor Bike Path At West Natick Road

The Pontiac Secondary Right-Of-Way from the Cranston/Warwick city line to Route 5 is no longer intact. It is privately owned and has been built upon over the past 20 years.

The proposed alternative is shown on Figure 19, the Connection to the WSBP Plan. It would utilize on-road segments as a Signed Shared Roadway in Cranston from along Knight Street, north to Greenwich Avenue, turning west onto West Natick Road, crossing Route 2 and eventually connecting to the entrance to the Washington Corridor Bike Path at the underpass of Interstate Route 295.

To achieve this on-road connection, it would require the necessary traffic analyses, studies, and reports that would examine these road's existing conditions and conclude if they could be designated as Signed Shared Roadways.

Studying and incorporating this connection from the proposed Pontiac Secondary Bike Path ultimately accomplishes the desirable intent of making a total bicycle network facility continuous and complete from the AMTRAK crossing at the proposed South Elmwood Spur to the Washington Secondary Corridor Bike Path.



LOCATION MAP
Not To Scale

LEGEND

- CONTINUATION OF ROUTE (COLOR VARIES)
- EXISTING WASHINGTON SECONDARY CORRIDOR BIKE PATH (WSBP)
- PROPOSED PONTIAC SECONDARY SPUR
- CONNECTION TO EXISTING WASHINGTON SECONDARY CORRIDOR BIKE PATH (WSBP)
- APPROXIMATE CITY LINE
- EXISTING ROADWAY

300' 0 300' 600' 1200'

1"=600'

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SITE ASSESSMENT PROJECT
PONTIAC SECONDARY SPUR
Cranston, Rhode Island
CONNECTION TO WSBP

FIGURE 19

Recommended Pontiac Secondary Bike Path

The proposed bicycle facility connection from Wellington Avenue to the Washington Secondary Corridor Bike Path (WSBP) is separated into two phases for consideration as recommendations. The limits of Phase 1 includes Segments 1, 2, 3, and a portion of Segment 4 that terminates at Garden City utilizing the Pontiac Secondary Corridor and the Providence Water Supply Board's Right-Of-Way. The limits of Phase 2 could include the remaining section of Segment 4 beginning from the Providence Water Supply Board's Right-Of-Way, Segments 5, 6, and 7, and ending at a connection to the WSBP.

Phase 1 is considered feasible for design and construction. This northern section of the proposed Shared Use Path is a viable route that can have significant long-term connectivity for the community. It provides approximately 1-½ miles of trail through diverse areas including forests and fields, as well as residential, commercial, and recreational districts. There are other advantages to building this phase including the upgrading and improvement of three bridges: the Wellington Ave. Bridge, the Well Ave. Bridge, and the Pocasset River Bridge. Additionally, access to the Cranston League for the Cranston's Future Youth organization would be provided along the route. Ultimately, as described in Segment 4, it is possible that the Providence Water Supply Board's right-of-way could be utilized to the west of the Pontiac Secondary crossing as a means to connecting the bike path to the Garden City area. This arrangement would allow for convenient access to a major retail/commercial center from the nearby residential areas. This Phase provides a minimal bike path segment that has logical termini in the short term, with potential for long term connections to other existing bicycle facilities along the WSBP and the East Coast Greenway via the Cranston Cross-City Bike Route to access Roger Williams Park and Allens Avenue Bike Lanes.

Phase 2 proposes that the Shared Use Path continue along the inactive Pontiac Secondary Rail Line from the crossing of the Providence Water Supply Board's Right-of-Way through the Pastore Center (State Health and Correctional Institutions) and into the City of Warwick, at Knight Street. At this time many issues need to be fully explored through this area that require extensive coordination beyond the scope of this study. Such issues include future plans at the Pastore Center, specifically the Department of Corrections, and connections to the WSBP in Warwick across Routes 2 and 5. Preferably, the desired final termination point for this project is the connection to the WSBP. Future roadway or land use projects could possibly provide the desired connection between these northern and southern phases. Phase 2 of this project as described should be considered in upcoming related projects.

APPENDIX A. OPINION OF PROBABLE COST

Metropolitian Providence Bicycle Facilities

Site Assessment Project

Pontiac Secondary Spur

PARE Project No. 02175.00

Well Avenue Bridge - Alternative 1

RIDOT Item No.	Description	Qty	Unit	Unit Price	Total
401.0400	Bridge Binder	15.0	TON	$125.00	$1,880.00
803.9901	Remove and Dispose Existing Bridge RR Ties	40.0	LF	$250.00	$10,000.00
806.1200	Glue Laminated Timber Deck	3.6	MBM	$6,000.00	$21,600.00
806.1500	Timber for Curbs, Rails, & Posts	2500.0	BM	$9.00	$22,500.00
806.1550	Timber for Beamseats & Sills	650.0	BM	$9.00	$5,900.00
813.0200	Preformed Waterproofing Membrane	60.0	SY	$15.00	$900.00
806.1750	Hardware for Timber Construction	1.0	LS	$5,000.00	$5,000.00
823.1750	Asphaltic Expansion Joint System	25.0	LF	$110.00	$2,800.00
832.8050	Bridge Minimum Clearance Signs	2.0	EA	$150.00	$300.00
901.0101	Guardrail Steel Beam Single Face Earth and Asphalt C.I.P.	80.0	LF	$20.00	$1,600.00
911.0300	Wet Stone Walls R.I. Std 10.1.0	64.0	CY	$240.00	$15,400.00
916.0700	Guardrail Energy Absorbing Terminal Impact Attenuators	2.0	EA	$5,000.00	$10,000.00
936.0110	Mobilization	1.0	LS	$14,400.00	$14,400.00
				Subtotal:	$113,000.00
				15% Miscellaneous:	$17,000.00
				Subtotal:	$130,000.00
				15% Engineering & Contingency:	$20,000.00
				TOTAL:	$150,000.00

Well Avenue Bridge - Alternative 2

RIDOT Item No.	Description	Qty	Unit	Unit Price	Total
401.0400	Bridge Binder	15.0	TON	$125.00	$1,880.00
803.9901	Remove and Dispose Existing Bridge RR Ties	40.0	LF	$250.00	$10,000.00
806.1200	Glue Laminated Timber Deck	3.6	MBM	$6,000.00	$21,600.00
806.1500	Timber for Curbs, Rails, & Posts	2500.0	BM	$9.00	$22,500.00
806.1750	Hardware for Timber Construction	1.0	LS	$5,000.00	$4,400.00
808.0506	Concrete Substructure Class XX(AE) 1 1/2" Abut Stems	11.0	CY	$460.00	$5,100.00
813.0200	Preformed Waterproofing Membrane	60.0	SY	$15.00	$900.00
823.1750	Asphaltic Expansion Joint System	25.0	LF	$110.00	$2,800.00
824.9901	Prefabricated Steel Truss Pedestrian Bridge	1.0	LS	$60,000.00	$60,000.00
828.0400	Pedestrian Bridge Bearings	4.0	EA	$125.00	$500.00
911.0300	Wet Stone Walls R.I. Std 10.1.0	200.0	CY	$240.00	$48,000.00
936.0110	Mobilization	1.0	LS	$26,370.00	$26,400.00
				Subtotal:	$205,000.00
				15% Miscellaneous:	$31,000.00
				Subtotal:	$236,000.00
				15% Engineering & Contingency:	$36,000.00
				TOTAL:	$272,000.00

APPENDIX B. OPINION OF PROBABLE COST

Metropolitian Providence Bicycle Facilities

Site Assessment Project

Pontiac Secondary Bike Spur

PARE Project No. 02175.00

Wellington Avenue Bridge

RIDOT Item No.	Description	Qty	Unit	Unit Price	Total
202.0300	Unclassified Excavation (Stone Ballast)	120.0	CY	$20.00	$2,400.00
301.0200	Gravel Borrow Base Coarse	80.0	CY	$20.00	$1,600.00
401.0101	Bituminous Binder Coarse	43.0	TON	$50.00	$2,150.00
401.0200	Bituminous Surface Coarse Type I-1	43.0	TON	$42.00	$1,810.00
806.1500	Timber for Curbs, Rails, & Posts	3000.0	BM	$9.00	$27,000.00
806.1750	Hardware for Timber Construction	1.0	LS	$2,500.00	$2,500.00
823.1750	Asphaltic Expansion Joint System	45.0	LF	$110.00	$5,000.00
835.0120	Deck Scuppers Double	4.0	EA	$1,200.00	$4,800.00
936.0110	Mobilization	1.0	LS	$5,175.00	$5,200.00
				Subtotal:	$53,000.00
				15% Miscellaneous:	$8,000.00
				Subtotal:	$61,000.00
				15% Engineering & Contingency:	$10,000.00
				TOTAL:	$71,000.00

APPENDIX C. OPINION OF PROBABLE COST

Metropolitian Providence Bicycle Facilities

Site Assessment Project

Pontiac Secondary Bike Spur

PARE Project No. 02175.00

I-95 Overpass

RIDOT Item No.	Description	Qty	Unit	Unit Price	Total
202.0300	Unclassified Excavation (Stone Ballast)	145.0	CY	$20.00	$2,900.00
301.0200	Gravel Borrow Base Coarse	100.0	CY	$20.00	$2,000.00
401.0101	Bituminous Binder Coarse	52.0	TON	$50.00	$2,600.00
401.0200	Bituminous Surface Coarse Type I-1	52.0	TON	$42.00	$2,190.00
806.1500	Timber for Curbs, Rails, & Posts	3600.0	BM	$9.00	$32,400.00
806.1750	Hardware for Timber Construction	1.0	LS	$2,500.00	$2,500.00
823.1750	Asphaltic Expansion Joint System	30.0	LF	$110.00	$3,300.00
835.0120	Deck Scuppers Double	4.0	EA	$1,200.00	$4,800.00
936.0110	Mobilization	1.0	LS	$5,730.00	$5,800.00
				Subtotal:	$59,000.00
				15% Miscellaneous:	$9,000.00
				Subtotal:	$68,000.00
				15% Engineering & Contingency:	$11,000.00
				TOTAL:	$79,000.00

APPENDIX D. OPINION OF PROBABLE COST

Metropolitian Providence Bicycle Facilities

Site Assessment Project

Pontiac Secondary Spur

PARE Project No. 02175.00

Pocasset River Bridge - Alternative 1

RIDOT Item No.	Description	Qty	Unit	Unit Price	Total
203.0100	Structural Excavation Earth	200.0	CY	$15.00	$3,000.00
401.0400	Bridge Binder	15.0	TON	$125.00	$1,880.00
803.9901	Remove and Dispose Existing Bridge RR Ties	60.0	LF	$250.00	$15,000.00
803.9902	Partial Demolition of Existing Timber Substructure	1.0	LS	$5,000.00	$5,000.00
806.1200	Glue Laminated Timber Deck	5.3	MBM	$6,000.00	$31,800.00
806.1500	Timber for Curbs, Rails, & Posts	3800.0	BM	$9.00	$34,200.00
806.1350	Timber for Beam and Stringers	3500.0	BM	$10.00	$35,000.00
813.0200	Preformed Waterproofing Membrane	86.0	SY	$15.00	$1,300.00
806.1750	Hardware for Timber Construction	1.0	LS	$10,000.00	$10,000.00
808.0502	Concrete Substructure Class XX(AE) 1-1/2" Abut Footing	24.0	CY	$250.00	$6,000.00
808.0505	Concrete Substructure Class XX(AE) 1-1/2" Abut Stem	42.0	CY	$600.00	$25,200.00
808.0602	Concrete Substructure Class XX(AE) 1-1/2" Backwalls	2.5	CY	$812.00	$2,100.00
936.0110	Mobilization	1.0	LS	$24,525.00	$24,600.00
				Subtotal:	$196,000.00
				15% Miscellaneous:	$30,000.00
				Subtotal:	$226,000.00
				15% Engineering & Contingency:	$34,000.00
				TOTAL:	$260,000.00

Pocasset River Bridge - Alternative 2

RIDOT Item No.	Description	Qty	Unit	Unit Price	Total
203.0100	Structural Excavation Earth	200.0	CY	$15.00	$3,000.00
401.0400	Bridge Binder	10.0	TON	$125.00	$1,250.00
803.9901	Remove and Dispose Existing Bridge RR Ties	60.0	LF	$250.00	$15,000.00
803.9902	Demolition of Existing Timber Bridge	1.0	LS	$3,000.00	$3,000.00
806.1200	Glue Laminated Timber Deck	5.3	MBM	$6,000.00	$31,800.00
806.1500	Timber for Curbs, Rails, & Posts	3800.0	BM	$9.00	$34,200.00
806.1250	Glulam Beams and Stringers	10.7	MBM	$5,000.00	$53,500.00
813.0200	Preformed Waterproofing Membrane	86.0	SY	$15.00	$1,300.00
806.1750	Hardware for Timber Construction	1.0	LS	$10,000.00	$10,000.00
808.0502	Concrete Substructure Class XX(AE) 1-1/2" Abut Footing	24.0	CY	$250.00	$6,000.00
808.0505	Concrete Substructure Class XX(AE) 1-1/2" Abut Stem	42.0	CY	$600.00	$25,200.00
808.0602	Concrete Substructure Class XX(AE) 1-1/2" Backwalls	2.5	CY	$812.00	$2,100.00
936.0110	Mobilization	1.0	LS	$27,000.00	$27,000.00
				Subtotal:	$214,000.00
				15% Miscellaneous:	$33,000.00
				Subtotal:	$247,000.00
				15% Engineering & Contingency:	$38,000.00
				TOTAL:	$285,000.00

APPENDIX E. OPINION OF PROBABLE COST - ALL SEGMENTS

	SEGMENT			1	2	3	4	5	6	7	Totals
	APPROXIMATE SEGMENT LENGTH			2500 LF	2500 LF	2000 LF	3000 LF	2500 LF	3000 LF	2500 LF	
ITEM CODE	ITEM	UNIT	UNIT PRICE								
	Well Avenue Bridge-Alternative 1	Refer to Appendix A		$ 272,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 272,000.00
	Wellington Avenue Bridge Improvements	Refer to Appendix B		$ 71,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 71,000.00
	I-95 Overpass Improvements	Refer to Appendix C		$ 79,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 79,000.00
	Pocasset River Bridge- Alternative 2	Refer to Appendix D		$ -	$ -	$ 285,000.00	$ -	$ -	$ -	$ -	$ 285,000.00
201.0320	Clearing and Grubbing	ACRE	$ 5,041.00	$ 2,269.00	$ 5,041.00	$ 4,033.00	$ 5,550.00	$ 5,041.00	$ 5,550.00	$ 5,041.00	$ 32,525.00
202.0100	Earth Excavation	CY	$ 6.54	$ 4,055.00	$ 9,418.00	$ 7,541.00	$ 11,000.00	$ 9,810.00	$ 11,000.00	$ 9,810.00	$ 62,634.00
204.0100	Trimming and Fine Grading	SY	$ 1.09	$ 2,153.00	$ 5,014.00	$ 4,033.00	$ 5,815.00	$ 5,045.00	$ 5,815.00	$ 5,045.00	$ 32,920.00
302.0100	Gravel Borrow Subbase Course	CY	$ 17.38	$ 8,603.00	$ 19,987.00	$ 16,076.00	$ 23,175.00	$ 20,860.00	$ 23,175.00	$ 20,860.00	$ 132,736.00
401.0101	1 1/2" Modified Bituminous Binder Course	TON	$ 41.73	$ 5,342.00	$ 12,519.00	$ 10,016.00	$ 14,400.00	$ 12,520.00	$ 14,400.00	$ 12,520.00	$ 81,717.00
401.0200	1 1/2" Bituminous Surface Course-Type I-1	TON	$ 40.63	$ 5,201.00	$ 12,189.00	$ 9,752.00	$ 14,020.00	$ 12,200.00	$ 14,020.00	$ 12,200.00	$ 79,582.00
403.0300	Asphalt Emulsion Tack Coat	SY	$ 0.14	$ 208.00	$ 483.00	$ 388.00	$ 560.00	$ 490.00	$ 560.00	$ 490.00	$ 3,179.00
L01.0104	Plantable Soil 4" Deep	SY	$ 3.12	$ 3,089.00	$ 7,176.00	$ 5,773.00	$ 8,400.00	$ 7,210.00	$ 8,400.00	$ 7,210.00	$ 47,258.00
T15.0100	Directional, Regulatory and Warning Signs	SF	$ 28.61	$ 1,503.00	$ 837.00	$ 1,331.00	$ 1,010.00	$ 172.00	$ 172.00	$ 172.00	$ 5,197.00
T20.2014	4" Epoxy Yellow Pavement Markings	LF	$ 0.21	$ 234.00	$ 543.00	$ 436.00	$ 630.00	$ 546.00	$ 630.00	$ 546.00	$ 3,565.00
	Typical Street Crossing Pavement Markings	EA	$ 907.00	$ 1,814.00	$ 907.00	$ 1,814.00	$ 907.00	$ 907.00	$ 907.00	$ -	$ 7,256.00
			Subtotal	$ 456,471.00	$ 74,114.00	$ 346,193.00	$ 85,467.00	$ 74,801.00	$ 84,629.00	$ 73,894.00	$ 1,195,569.00
			25% Contingency	$ 114,117.75	$ 18,528.50	$ 86,548.25	$ 21,366.75	$ 18,700.25	$ 21,157.25	$ 18,473.50	$ 298,892.25
			SUB TOTAL	$ 570,588.75	$ 92,642.50	$ 432,741.25	$ 106,833.75	$ 93,501.25	$ 105,786.25	$ 92,367.50	$ 1,494,461.25
			TOTAL	**$ 571,000.00**	**$ 93,000.00**	**$ 433,000.00**	**$ 107,000.00**	**$ 94,000.00**	**$ 106,000.00**	**$ 93,000.00**	**$ 1,497,000.00**

APPENDIX F. OPINION OF PROBABLE COST - ALTERNATIVE A

	SEGMENT			4	5	6	Totals
	APPROXIMATE SEGMENT LENGTH			3000 LF	2500 LF	3000 LF	
ITEM CODE	ITEM	UNIT	UNIT PRICE				
T15.0100	Directional, Regulatory and Warning Signs	SF	$ 28.61	$ 1,010.00	$ 172.00	$ 172.00	$ 1,354.00
	Typical Street Crossing Pavement Markings	EA	$ 907.00	$ 907.00	$ 907.00	$ 907.00	$ 2,721.00
			Subtotal	$ 1,917.00	$ 1,079.00	$ 1,079.00	$ 4,075.00
			25% Contingency	$ 479.25	$ 269.75	$ 269.75	$ 1,018.75
			SUB TOTAL	$ 2,396.25	$ 1,348.75	$ 1,348.75	$ 5,093.75
			TOTAL	**$ 3,000.00**	**$ 2,000.00**	**$ 2,000.00**	**$ 7,000.00**

PARE
ENGINEERING CORPORATION

MEMORANDUM OF MEETING

DATE: December 05, 2002

TO: File

CC: K. DeCosta, J. Shevlin

FROM: V. Gray

RE: Metropolitan Providence Bicycle Facility Site Assessment Project, Contract 2 – Kick Off Meeting with RIDOT
PARE No. 02175.00

A kick-off meeting was held today at the RIDOT office at 1:30 pm. In attendance was:
Steve Devine, Steve Church, William Alves – RIDOT
Ken DeCosta, John Shevlin, Virgil Gray – PARE Engineering

- Steve Church was identified as RIDOT's Project Manager.
- One of the first steps to starting this project will include PARE developing a fact sheet for each area within the study. This will be transmitted to RIDOT for use at meetings with each community.
- RIDOT will be contacting each community to set up an informational meeting to discuss the project scope of work. RIDOT will coordinate with PARE for meeting dates.
- RIDOT considering developing a letter to property owners in an effort to minimize the "not in my back yard" syndrome. There already exists concerns about having consultants investigating project areas with orange vests, survey equipment, etc. RIDOT wants to get the word out to the communities prior to the consultants being noticed on the street.
- The Pontiac Secondary, South Elmwood Spur, and Promenade Street areas will need to be coordinated with the City of Cranston. RIDOT will lead this effort.
- The Colt State Park area is proposed to link the East Bay Bike Path, along the entrance, to the park. The intent of this project does not include to upgrades the existing park paths or signage at this time within the park.
- The Route 2 bicycle lanes will have to be coordinated with RIDOT's traffic department for discussions of narrowing the existing roadway from 4 lanes to 2 with bicycle lanes.
- The City of Coventry will need to be coordinated with regarding the roads identified in the RFP. RIDOT will take the initial lead for this coordination.
- The statewide signing and striping project scope of work is going to change into a master plan effort. PARE will be tasked to review the existing signing formats on a statewide level and to develop a uniform signing format. RIDOT is looking for possible mile marker posts

and color-coded guide signs. Warwick has a route signage system in place. PARE will coordinate with the city.

- A letter was sent in September to Providence regarding the Promenade Street route. No response was received to date. It was suggested that contact with the new administration should occur in January.
- PARE is to coordinate with the RIDOT GIS department for any existing maps identifying bicycle routes, signing inventories, and striping plans.
- PARE can start on the data collection phase of the project by researching existing right-of-way maps, town tax maps, and RIDOT plans along with the GIS information.
- RIDOT is to coordinate with P&W for the South Elmwood Spur area to see if we can utilize the railway bed for the bicycle path.
- RIDOT is to coordinate with the Providence Water Supply Board to see if we can utilize some sort of easement along their alignment in the Garden City area.
- The signing projects have the highest priority at this time.
- PARE is to develop a project schedule for RIDOT's review.
- Status reports / invoices are to be broken out by task.

METROPOLITAN PROVIDENCE BICYCLE FACILITIES SITE ASSESSMENT PROJECT

PONTIAC SECONDARY BIKE PATH

City of Cranston, Rhode Island

January 2003

Pontiac Secondary Bike Path

Agenda

- Introduction
- Update of project status
- Review of project
- General Discussion

Pontiac Secondary Bike Path

Background

- The City of Cranston submitted a Congestion Mitigation & Air Quality (CMAQ) proposal in Feb 2000 for the study & development phase for a proposed bicycle path within the State owned Pontiac Secondary Corridor.
- At that time, the CMAQ committee recommended that this project be included in the Bicycle Program study and development category of the FY 2001-2002 TIP.
- The RI Department of Transportation (RIDOT) hired Pare Engineering Corporation for consultant services through the study & development phase for this and other Metropolitan Providence area bicycle path projects.

Purpose

- The purpose of this study & development phase is to fully scope, assess and develop with community input, all necessary site information, including cost estimates, in order to make informed decisions on the advancement of the project into the design phase.
- The study and development phase does not guarantee that a project will proceed into the next stage of development or be implemented; but it does assure that all the relevant information will be presented to the project sponsor, RIDOT and the TAC for further consideration.

Project Description

The project includes the creation of an approximately 3.5 mile long Class I shared use bike path along the former railroad corridor near the Pawtuxet River and the Cranston/Warwick city limits. The bike path would provide pedestrians, commuters and recreational bicyclists access to schools, government centers, recreational sites, historic sites, and neighborhoods and potentially connect to the Washington Secondary Bike Path and Cranston's Cross City on-road bike route network.

Tasks to be Performed

- Coordinate with the City of Cranston (City) on its project concept and its relation to the Cranston Comprehensive Plan.
- Gather and analyze all relevant data, mapping, and existing conditions.
- Develop and evaluate route alternatives for the bike path, considering potential right-of-way and environmental impacts, and cost estimates
- In close coordination with the City, all the alternatives will be summarized and a route alternative(s) will be recommended.

Next Steps/Process

- After meeting with the City, collect all available data and plans from the City to assist in developing the routes and potential alternatives.
- Continue to coordinate with the City as potential route alternatives are developed, screened and recommended.
- Present findings to TAC for consideration for funding into the TIP.

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Transportation
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Two Capitol Hill
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TDD 277-4971

RECEIVED PARE
DATE: 1-27-03
JOB NO: 02175.00
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Civil
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Transportation
JOB FILE: INC.

January 24, 2003

Mr. Kevin Flynn
Director, Department of Planning
869 Park Avenue
Cranston, Rhode Island 02910

Subject: **Metropolitan Providence Bicycle Facility Site Assessment Project**
Pontiac Secondary Railroad Right-of-way
South Elmwood Spur Right-of-way
RI Contract No. 2002-EI (008)
RI FAP No. HPP-1827 (003)

Dear Mr. ~~Flynn~~ Kevin:

At our January 16, 2003 project start-up meeting, Pare Engineering requested the City provide GIS information with regards to this project.

Enclosed is a listing from Pare of the GIS electronic file information they are requesting. We would appreciate the assistance of your office in gathering this data. Please send the requested files to vgray@parecorp.com.

I appreciate the City's assistance with this request.

Sincerely,

Stephen A. Devine
Chief, Program Development

Enclosure
C/ Steven C. Church, **w/enclosure**
Virgil Gray, Pare Engineering

PARE
ENGINEERING CORPORATION

MEMORANDUM

DATE: January 22, 2003

TO: Steve Church, RIDOT

CC: John Shevlin, P.E.
File

FROM: Virgil Gray, P.E.

RE: Metropolitan Providence Bicycle Facility Site Assessment Project – Request for City of Cranston GIS Information
PARE No. 02175.00

As per our discussions during the January 16, 2003 kick-off meeting with the City of Cranston, PARE requests the City's GIS information with regards to this project. We would like to be provided the following electronic information with all data sets available:

Block 1:	G-16, G-17, G-18, H-17, and H-18
Block 2:	G-14, G-15, H-13, H-14, and H-15
Block 4:	I-12, I-13, I-14, J-12, J-13, K-12, K-13, L-10, L-11, L-12, and L-13

T:\02175.00 Metropolitan Providence Bicycle Facilities\Admin\Correspondence\Memorandum\Memorandum 1-22-2003.doc

PARE
ENGINEERING CORPORATION

MEMORANDUM

DATE: February 4, 2003
Revised February 20, 2003

TO: Steve Church, RIDOT

CC: John Shevlin, P.E.
File

FROM: Virgil Gray, P.E.

RE: Metropolitan Providence Bicycle Facility Site Assessment Project
Pontiac Secondary and South Elmwood Spur Project Approach and Schedule
PARE No. 02175.00 / Task 001 and 002

As per our discussions during the January 16, 2003 kick-off meeting with the City of Cranston (City), Pare Engineering Corporation (PARE) was asked to provide a project approach and schedule for Rhode Island Department of Transportation (RIDOT) and the City review and approval. The following is a summary of the project approach, anticipated completion dates and list of deliverables:

Data Collection and Preparation of Base Mapping: Available mapping and plans of the project area will be collected and reviewed to develop a familiarity with the area and for use in the identification of alternatives. PARE will prepare base mapping by utilization of compiled plans. The anticipated completion date for this task is by March 14, 2003.

Analysis of Existing Conditions: Available data and plans of the project area will be reviewed and analyzed for bicycle facilities site assessment. On-site project reviews will be performed to field edit the base mapping and study the project area for identification of viable route alternatives. The on-site project reviews are anticipated to start on Tuesday, February 25, 2003 and continue on Tuesdays and Thursdays for four weeks (February 27 and March 4, 6,11, 13, 18, and 20 2003).

Throughout the duration of this project, on-site project reviews will become necessary from time to time. PARE will seek RIDOT / City approval of any scheduled field reviews. The anticipated completion date for this task is by April 25, 2003.

Traffic and Safety Analysis: Traffic data including traffic volumes and peak hour turning movement counts will be obtained from RIDOT and/or the City for use in performing traffic capacity analyses at critical locations. Accident analysis will be performed at any at-grade crossings or along roadways that may be considered a viable route alternative. Bicycle and pedestrian facility locations will be

analyzed for safety and compatibility with other modes of transportation. The anticipated completion date for this task is by May 30, 2003.

Define, Develop and Evaluate Alternatives: Conceptual plans will be developed for evaluation of alternative routes. Cost estimates of each alternative will be used to evaluate the economic feasibility. The anticipated completion of this task is by July 3, 2003.

Deliverables

The Design Study Report (DSR) will be compiled based on the study, development and analysis completed. The deliverables and their anticipated submission dates are as follows:

Draft DSR to RIDOT	August 8, 2003
Final DSR to RIDOT	October 3, 2003

PARE
ENGINEERING CORPORATION

MEMORANDUM

DATE: February 20, 2003
Revised March 03, 2003

TO: Steve Church, RIDOT

CC: John Shevlin, P.E.
File

FROM: Virgil Gray, P.E.

RE: Metropolitan Providence Bicycle Facility Site Assessment Project
Pontiac Secondary and South Elmwood Spur Project Approach and Schedule
PARE No. 02175.00 / Task 001 and 002

As per our discussions during the January 16, 2003 kick-off meeting with the City of Cranston (City), Pare Engineering Corporation (PARE) was asked to provide a project approach and schedule for Rhode Island Department of Transportation (RIDOT) and the City review and approval. The following is a summary of the project approach, anticipated completion dates and list of deliverables:

Data Collection and Preparation of Base Mapping: Available mapping and plans of the project area will be collected and reviewed to develop a familiarity with the area and for use in the identification of alternatives. PARE will prepare base mapping by utilization of compiled plans. The anticipated completion date for this task is by April 14, 2003.

Analysis of Existing Conditions: Available data and plans of the project area will be reviewed and analyzed for bicycle facilities site assessment. On-site project reviews will be performed to field edit the base mapping and study the project area for identification of viable route alternatives. The on-site project reviews are anticipated to start on Tuesday, March 18, 2003 and continue on Tuesdays and Thursdays for four weeks (March 20, 25, 27 and April 1, 3, 8, and 10 2003).

Throughout the duration of this project, on-site project reviews will become necessary from time to time. PARE will seek RIDOT / City approval of any scheduled field reviews. The anticipated completion date for this task is by May 23, 2003.

Traffic and Safety Analysis: Traffic data including traffic volumes and peak hour turning movement counts will be obtained from RIDOT and/or the City for use in performing traffic capacity analyses at critical locations. Accident analysis will be performed at any at-grade crossings or along roadways that may be considered a viable route alternative. Bicycle and pedestrian facility locations will be

analyzed for safety and compatibility with other modes of transportation. The anticipated completion date for this task is by June 27, 2003.

Define, Develop and Evaluate Alternatives: Conceptual plans will be developed for evaluation of alternative routes. Cost estimates of each alternative will be used to evaluate the economic feasibility. The anticipated completion of this task is by August 08, 2003.

Deliverables

The Design Study Report (DSR) will be compiled based on the study, development and analysis completed. The deliverables and their anticipated submission dates are as follows:

Draft DSR to RIDOT	September 05, 2003
Final DSR to RIDOT	November 07, 2003

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Transportation
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Providence, RI 02903 - 1124

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RECEIVED PARE
DATE: 3-10-03
JOB NO: 03175.00
COPIES TO
Civil
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VC
JOB FILE: ✓ INC. ✓

March 4, 2003

Mr. Kevin Flynn
Director of Planning
869 Park Avenue
Cranston, RI 02910

Subject: Metropolitan Providence Bicycle Facility Site Assessment Project- Contract 1
Consultant Field Reviews on Pontiac and South Elmwood Right-of-Ways
RI Contract No. 2002-EI-008
RI FAP No. HPP-1827 (003)

Dear Mr. ~~Flynn~~ Kevin:

As per our discussions during our January 16, 2003 project start-up meeting, our consultant, Pare Engineering, Inc. has developed a schedule to conduct on-site field reviews of the Pontiac Secondary and South Elmwood right-of-ways in order to begin the site assessment work for these projects.

Pare has requested the following dates for these on-site reviews: Tuesday, March 18, 2003 and continue on Tuesdays and Thursdays for four weeks (March 20, 25, 27, and April 1, 3, 8, and 10, 2003).

We are requesting the City's review of this schedule. Should you require any additional information, please call me at 222-4203 ext. 4063.

Sincerely,

Stephen A. Devine
Chief, Program Development

C/ Steven C. Church
Virgil Gray, P.E., Pare Engineering

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Rhode Island Department of Transportation
ENVIRONMENTAL & INTERMODAL PLANNING
Two Capitol Hill, Providence, RI 02903-1124
ENVIRONMENTAL PHONE (401) 222-2023
INTERMODAL PHONE (401) 222-4203
FAX (401) 222-2207 TDD (401) 222-4971

November 4, 2003

Mr. John P. Shevlin, P.E.
Vice President
Pare Engineering Corporation
8 Blackstone Valley Place
Lincoln, RI 02865

RE: Pontiac Secondary Spur
Draft Site Assessment Report
RI Contract No. 2002-E1-008

Dear ~~Mr. Shevlin~~ John:

We have reviewed the draft site assessment report and request the following comments be addressed:

1. Introduction – insert a paragraph that refers to RIDOT's Bicycle Transportation User Survey. We have attached the project proposal as it appears on URITC's web site.
2. Page 39 - No discussion of using the Providence Water Supply Board's right-of-way to connect to Garden City.
3. Please refer to additional comments in the attached report.

Please forward a revised draft report to this office and we will forward it to the City of Cranston for their review.

Sincerely,

Stephen A. Devine
Chief, Program Development

Attachments
C/ Steven C. Church, w/out attachments

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URITC Research Profile

536182-RI DOT 2002 Bicycle Transportation User Survey; Developing Intermodal Connections for the 21st Century

Click for a plain text version

Project Team

Prof. R. Choudary Hanumara
URI - Computer Science and Statistics
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Kingston, RI 02881
401-874-2701
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PI

Mr. Steven Church
RI Dept. of Transportation
Two Capitol Hill, Room 372
Providence, RI 02903
401-222-4203 x4042

Dr. M. Liliana Gonzalez
University of Rhode Island-Computer Sci & Statistics
Tyler Hall, Room 132
Kingston, RI 02881
401-874-4497

External Project Contact

William Chuck Alves--RI Dept. of Transportation
Two Capitol Hill, Room 372
Providence RI 02903
401-222-4203 x4233

Project Objective

The objectives of this project are to obtain the most current comprehensive user data to determine the number of people commuting by bicycle to work. Most importantly, combining user data from local bikeways, as well as a compilation of user data (bicyclists) from other transit modes, ie. ferry services, RIPTA's Rack n' Ride Program, and MBTA commuter rail service, will provide a useful resource to transportation planners in evaluating the benefits and impediments to increasing bicycle use as alternative transportation.

Project Orientation

Intermodal

Project Abstract

The purpose of this research project is to develop, analyze and disseminate a comprehensive bicycle user survey that will provide key insights into the factors that encourage and/or discourage bicycle use as an alternative travel mode in the state of Rhode Island. The only comprehensive bicycle user survey to date is the 1996 User Survey of the East Bay Bicycle Path conducted by the RI Department of Environmental Management (RIDEM) in cooperation with the Department of Urban Studies at Brown University. Currently, there is a growing need for this type

of user survey data not only in Rhode Island, but throughout the United States. Bikeway projects included in this research project include, East Bay Bicycle Path, Washington Secondary (Cranston Bike Path), Blackstone River Bikeway, and the South County Bicycle Path. The survey will be conducted in two stages.

The 2000 Bureau of Transportation Statistics (BTS) & USDOT publication, Bicycle and Pedestrian Data, Sources, Needs and Gaps, (copy of document enclosed) identifies the need for user preference and demand studies, which analyze the effects of facility design and other policies on user preferences and demand. As noted in this BTS report, “efforts to plan for bicycle and pedestrian travel are frequently hampered, however, by deficiencies in data on travel characteristics, facilities, safety, and user preferences.”

Since the 1996 user survey was completed RIDOT has constructed several new bikeway facilities. One of the objectives of this study will be to access the impact of RIDOT’s efforts to increase bicycling as another form of transportation. This includes since 1997, the development and distribution of A Guide to Cycling in the Ocean State, that is revised bi-annually. This survey will provide useful data to determine the extent to which bike path usage has increased since the 1996 survey. While the vast majority of current bicycle path users may be utilizing these facilities for recreational purposes, it is important that transportation planners have accurate, readily available user data to determine the needs and/or obstacles to bicycle use for commuting purposes.

- **Project Task**

This project is based on a survey design that extends the methodology used in the 1996 RI DEM/Brown University User Survey of the East Bay Bicycle Path.

The survey will be carried out in two stages. In stage 1, a short and general “on path questionnaire” will be given to individuals from the target population (bicycle path users) with the last question asking for their address so that a larger questionnaire can be mailed out to them at a later time.

The “on path questionnaire” will be given to individuals over four consecutive weeks during the Summer of 2002. A week consists of five days. Two of these days are weekend days and the other three days are selected at random from weekdays. The day is divided into three blocks of four hours (7:00-11:00am, 11:00am - 3:00pm, 3:00-7:00pm) and the time of the day in which the surveying is to take place (blocks of four hours/day) will also be chosen at random.

This “on path questionnaire” will be administered at locations that will not cause disruptions with normal path use, such as parking areas, major road intersections, resting areas and beginning/end of paths. Once the location has been selected at random, the interviewer will stay in the same location for a period of four consecutive hours. The interviewers will receive prior training as to how to conduct the interview so that sources of biases are minimized.

The stage 2 of the survey design is comprised of mailing a pre-addressed postage paid envelope with a more detailed questionnaire to be answered. This larger questionnaire includes questions about demographics, economic impact, their means of transportation and perceptions and evaluations of the paths.

To achieve a margin of error of at least five percent in the estimation, a sample size of 385 is required. Based on the results of the 1996 East Bay Path Survey, the percentage of questionnaires returned was approximately 52% which is an improvement to findings by Kanuk and Berenson (1975) and Jackson and Boyle (1991). Hence, to achieve a reasonable precision in the estimates, the “on path surveys” should total at least 800 (target sample size).

The results of the survey will be processed and the data entered into a spreadsheet such as Excel. The analysis of the data will be carried out using the statistical software SAS and the graphical displaying of the data using Excel.

- **Project Milestones**

1. July 1, 2002 - Project start date

2. July - August 2003 - Project end date

3. July to August 2002 - Develop User Survey Model

4. August to September 2002 - Conduct user surveys statewide bicycle paths

5. October to December 2002 - Compilation and analysis of survey data

6. January to April 2003 - Format report

7. May to July 2003 - Finalize user survey and distribute

- **Total Budget**

$55,546.00

- **Student Involvement**

We intend to utilize both undergraduate and graduate students in developing and/or modifying a model survey form, assist with follow-up survey mailings and to obtain field data from bike path user groups directly. Project student interns may be selected and/or employed through the URI Department of Computer Science and Statistics and RI DOT's Office of Intermodal Planning. Volunteer assistance from local greenway and bikeway advocacy groups will also be sought to assist with this research project.

- **Relationship to Other Projects**

A major goal of this research is to obtain baseline user data indicative of behavioral change patterns, specifically public attitudes toward exercise, the health benefits of bicycle and pedestrian facilities. This type of data would prove most valuable to the Rhode Island Department of Health's current Obesity Control research program funded through the Centers for Disease Control.

This project will provide valuable quantitative and qualitative information for RI DOT Transportation Planners relative to the future planning of the statewide bicycle program. Most importantly, the survey data information compiled under this research project will provide a useful tool in justifying the continued future expansion of a transportation infrastructure that truly accommodates a multi-modal system.

- **Technology Transfer Activities**

Besides the presentation and publication at TRB, the research results from this project will be disseminated to state and federal agencies, college and universities, and other organizations involved in the planning and development of transportation systems research. The research results will be made available at conferences of the state DOT Bicycle & Pedestrian Program Coordinators, including the September 2002 Pro Bike/Pro Walk Conference to be held in St. Paul, Minnesota. The survey and results can be presented at a "Conference on Survey Research Methods" and conferences focusing on behavioral change.

Research results will be made available to the Providence Foundations Bicycle to Work and College Project, funded through RI DOT's Congestion, Mitigation and Air Quality Improvement Program. Also, research study results will be shared with the Federal Highway Administration, the Bureau of Transportation Statistics, Association of Pedestrian and Bicycle Professionals, the National Center for Walking and Bicycling, University of North Carolina's Highway Safety Research Center which serves as the program manager for FHWA's Pedestrian and Bicycle Information Center web site. Upon the completion of the final research report RIDOT will initiate a media release and submit the results for publication in Bicycling Magazine, Transportation Research Board and any relevant specialized journals.

- **Potential Project Benefits**

The important statistical information and analysis obtained from this research will help establish a baseline for future RI DOT bicycle project planning and design and assess a need for community awareness initiatives.This survey will be instrumental in providing a measurement of potential support for the construction of additional bicycle facilities on a statewide basis to RI DOT, local city and town planners, researchers at local colleges and universities, and the U.S. Department of Transportation, Federal Highway Administration.

The baseline data gathered in this project could be the basis for a more comprehensive study to access changes in attitudes of Rhode Island residents towards bicycling, especially as a means of promoting healthy lifestyles.

- **Project Keywords and Related Projects at Other Transportation Centers**

Bicycle Transportation, Bike Paths Survey, Intermodal Connections

Return to Search Page

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Two Capitol Hill, Providence, RI 02903-1124
ENVIRONMENTAL PHONE (401) 222-2023
INTERMODAL PHONE (401) 222-4203
FAX (401) 222-2207 TDD (401) 222-4971

August 4, 2004

Mr. John P. Shevlin, P.E.
Vice President
Pare Engineering Corporation
8 Blackstone Valley Place
Lincoln, RI 02865

Re: Pontiac Secondary Bike Path
RI Contract No. 2002-EI (008)

Dear Mr. Shevlin:

We have received the enclosed comments from the City of Cranston on the draft Design Study Report for the Pontiac Secondary Bike Path.

We would request that you provide a "response to comments" to this office so that we may prepare a response to the City.

Should you have any questions, please contact Steven Church at 222-4203 ext. 4042.

Sincerely

Stephen A. Devine
Chief, Intermodal Planning

Enclosure
C/ J.M. Bennett, S. Church, w/out enclosure

PLANNING COMMISSION

Cranston City Hall
869 Park Avenue Cranston, RI 02910

July 20, 2004

J. Michael Bennett, P.E.
Deputy Chief Engineer
RIDOT-Environmental & Intermodal Planning
Two Capitol Hill
Providence, RI 02903-1124

RE: Pontiac Secondary Spur
Draft Design Study Report

Dear Mr. Bennett:

I have reviewed the Draft Design Study Report for the Metropolitan Providence Bicycle Facilities Site Assessment Project for the Pontiac Abandoned Railroad Secondary Spur and have the following comments:

1. Segment 1 – The report mentions that 29 residential properties abut this segment, and it appears several of those abutters are using the railroad right-of-way for garden and landscaping purposes. Will it be the responsibility of homeowners to remove or relocate any landscaping, etc. that encroaches on the right-of-way? Well Avenue is not a heavily traveled road, since Wellington Avenue is the direct route. Is refurbishing of the 10 ft. high bridge necessary? Could it be removed completely and a new graduated ramp be constructed in the railroad right of way, from the westerly line of Well Avenue to the Wellington Avenue bridge? This would save $272,000 for the construction of Well Ave. Bridge Alternative 2.
2. Segment 2 – This segment would appear to be the most scenic with the least amount of residential impact.
3. Segment 3 – It would appear that for the Pocassett River Bridge, Alternative 2, is the preferred plan. The debris that currently accumulates around the wood piers would be eliminated with the clear span of Alternative 2. This segment also appears to have a minimal impact on abutting residential properties.
4. Segment 4 – There are no issues with this segment itself, however, the continuation of the path under Rt. 37 to Segment 5 is the issue. An alternative route has been illustrated that will bypass Section 5 altogether by re-routing Segment 4 over the Providence Water Supply Board right-of-way onto Pontiac Avenue. This section of Pontiac Avenue is probably the worst possible location for a bicycle route. The highly congested intersection of Sockanosset Cross Road and the Rt. 37 Interchange is not conducive to bicycle travel.

5. Segment 5 – Omit. This portion of Pontiac Ave. is already heavily traveled. The possible new location of the State Police Barracks and Traffic Court in the Pastore Center, would exacerbate the traffic problem on Pontiac Ave. This added traffic would not be condusive to bike traffic.
6. Segment 6 – This segment is acceptable. The problem here, is that one cannot get here from Segment 4.
7. Segment 7 – This segment itself is acceptable. The end portion which passes by the scenic Pawtuxet River and the historically significant area containing the State Institution's Cemetery, is especially nice. However, the potential downside to developing this area of the path is the introduction of people to a relatively remote and unknown Cemetery, which by the photograph in the report, appears to be in excellent condition. As it is in a remote area, vandalism is always a possibility.

Following the route from the Cranston City line to the end of Knight Street in Warwick is also acceptable. However, crossing over Route 5 and Route 2 in Warwick in order to continue the trip to the Washington Secondary Corridor would be a dangerous scenario, unless bridges are proposed. From a safety standpoint, this area is the least desirable for bicycle travel.

I am aware that the intent of the development of the Pontiac Secondary Spur is to create a total bicycle network facility that is continuous and complete from the Amtrak crossing at the proposed South Elmwood Spur to the Washington Secondary Corridor Bike Path. An alternate connection could be achieved in Segment 4, utilizing the proposed Garden City connection (over the Providence Water Supply Board easement), then north on Midway Road, to west on Garden City Drive to the signed Cranston Cross City Bicycle Corridor on Wayside Drive, and following the route west to Dean Parkway, and its intersection with the Washington Secondary Corridor.

The end result is the same and is a safer alternative.

Thank you for this opportunity to comment.

Sincerely,

Kevin Flynn
Planning Director

PARE
ENGINEERING CORPORATION

MEMORANDUM OF MEETING

DATE: October 8, 2004

TO: Steve Devine, RIDOT

CC: Steve Church, RIDOT

FROM: Keith Bloomer, P.E., PTOE

RE: Metropolitan Providence Bicycle Facility Site Assessment Project
Response to City of Cranston Comments Meeting
PARE No. 02175.00 / Task 001

A project meeting was held on October 5, 2004 at the Rhode Island Department of Transportation Intermodal Office at 2:00 pm to discuss the response to the City of Cranston comments, dated July 20, 2004. In attendance were:

Mike Bennett, Steve Devine, Steve Church – RIDOT
Keith Bloomer, Virgil Gray – Pare Engineering Corporation (PARE)

The following items were discussed:

- Mr. Devine and Mr. Church have prepared a draft letter to the City of Cranston, incorporating but modifying the PARE response to comments. Additional modifications to the draft letter to the City of Cranston will be required after the report is finalized.

- Mr. Devine stated that the overall response to comments were technically complete. The Draft Design Study Report as drafted includes recommendations within each section but does not include a summary of recommendations. It was requested that PARE revise the Draft Design Study Report to include a summary of recommendations on a macro scale. The three areas of concern could be the northern section, section 5, and the southern section. Section 5 could be combined with either section if a viable alternative is determined. If no viable alternative is determined, the report should indicate that inclusion of bicycle facilities in future roadway or land use projects could provide the desired connection between the northern and southern sections.

- Mr. Devine stated that the Draft Design Study Report should include a phasing schedule. Phase I limits would be from I-95 to the Providence Water Supply Board right-of-way. This phase is feasible for design and construction. Phase II limits would be from the Providence Water Supply Board right-of-way to a connection with the Washington Secondary Corridor Bike Path in Warwick.

- Mr. Devine would like to make some changes to the report with regard to Section 5 in the area of the DOC. Currently, the response to comments states that PARE concurs with the City of Cranston that this segment is not feasible due to the location of the DOC and the volume of traffic on Pontiac Avenue. Mr. Devine would like to change this to state that this alignment is not feasible today. The final version of the study will investigate additional alternatives. Mr. Bennett requested that PARE investigate following Route 37 to Pontiac Avenue to avoid placing the path right along the DOC.

- Mr. Bennett would like all alternatives and recommendations to be well defined and investigated so that the project can be sent to the design stage with direction for each segment. The report should stress that the northern section of path is a viable route with significant benefits. The fact that this section provides access to a destination, Garden City, is a benefit to the community.

- Mr. Bennett stated that the project should extend across Route 5, connect to the Warwick Mall, and then cross Route 2 in order to connect to the existing Washington Secondary Bike Path. Mr. Church stated that work within the City of Warwick was specifically not in PARE's scope of work for this project. Mr. Bennett stated that the project would not be complete unless the team investigated potential connections. The Intermodal Section will coordinate with the Highway Section, which currently has a highway and bridge reconstruction project at Route 5. Also, Warwick has a river walk project in the area on the TIP that might be able to include a bicycle facility.

- RIDOT will plan for a site visit of the Route 5 area to identify alternatives for PARE to investigate. A pedestrian ramp and bridge may be necessary to cross Route 2. The ramp in Peacedale could be used as a model for a proposed ramp.

- The section of the path between Pontiac Avenue and Sharpe Drive located between two parcels owned by "Swarovski" may be outside the State right-of-way. Mr. Bennett recalls the right-of-way in this area being shifted in a land swap to allow the abutting property owner the ability to install an access driveway. This should be further investigated and indicated on the plans.

- Mr. Bennett stated that the Draft Design Study Report should be transmitted to the City of Warwick for their review and comment. It should be made clear to the City of Warwick that the project is still in the draft stage and very few concepts have been put together for this area of the study. Mr. Church requested that PARE draft a revised Design Study Report cover that would list the City of Warwick.

PARE
ENGINEERING CORPORATION

MEMORANDUM OF MEETING

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TO: Steve Devine, RIDOT

CC: Steve Church, RIDOT

FROM: Keith Bloomer, P.E., PTOE

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STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Rhode Island Department of Transportation
ENVIRONMENTAL & INTERMODAL PLANNING
Two Capitol Hill, Providence, RI 02903-1124
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INTERMODAL PHONE (401) 222-4203
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October 13, 2004

Mr. Mark Carruolo
Planning Director
3275 Post Road
Warwick, RI 02886

Re: Pontiac Secondary Bike Path
Draft Design Study Report

Dear Mr. Carruolo:

We are submitting for your review a Draft Design Study Report for the Pontiac Secondary Bike Path. This project was included under the Study and Development category of the FY 2001-2002 Transportation Improvement Program (TIP). The purpose of this report is to provide an analysis of existing conditions within the available state owned right-of-way and the potential bike path alternatives.

We are particularly interested in obtaining input from the City of Warwick relative to a potential bike route connection from the Knight St./Route 5 intersection to the Washington Secondary Bike Path/West Natick Road crossing. Obviously there are several constraints to making this connection, but before the report is finalized, we would appreciate any feedback you can provide. As you know, the current TIP has a study and development project for a riverwalk along the Pawtuxet River in this area that may affect this connection.

As our consultant contract for this Study and Development contract is near completion, we would request any comments, particularly Section 11 of this report, prior to November 19, 2004.

Should you require additional information, please contact Stephen A. Devine at 222-4203 ext. 4063 or Steven Church at 222-4203 ext. 4042.

Sincerely,

for J. Michael Bennett, P.E.
Deputy Chief Engineer

Enclosure
C/ S. Devine, S. Church, w/out enclosure

CITY OF WARWICK
PLANNING DEPARTMENT

CITY HALL ANNEX
3275 POST ROAD
WARWICK, RI 02886-7191

TELEPHONE: 401-738-2000 Ext. 6289
PLANNING FAX: 401-738-2000 Ext. 6285
CD FAX: 401-732-9522
TDD: 401-739-9150

SCOTT AVEDISIAN
Mayor

MARK CARRUOLO
Director

Office of Planning
Office of Community Development
Office of Landscape Architecture

Planning Board
Warwick Station Redevelopment Agency
Zoning Board
Conservation Commission
Harbor Management Commission
Historic District Commission
Historic Cemetery Commission

December 14, 2004

Mr. J. Michael Bennett
Rhode Island Department of Transportation
ENVIRONMENTAL & INTERMODAL PLANNING
Two Capitol Hill
Providence, RI 02903-1124

Dear Mr. Bennett:

Thank you for submitting the Draft Design Study Report for the Pontiac Secondary Bike Path for the City's review and comments.

Due to the fact that the Pontiac Secondary Right-of-Way from the Cranston/Warwick line to Route 5 is no longer intact, it is the City's understanding that the segment located within Warwick would be an on road facility and would run from the Cranston/Warwick line to the entrance of the Washington Secondary Bike Path.

At this preliminary stage, the City has the following concerns and comments:

1. There is currently a feasibility study being conducted for a River Walk along the Pawtuxet River from the Pontiac Mills and terminating at the Washington Secondary Bicycle Path. If this proves feasible, it would be the best option for bicycle access. This would provide a scenic and safe route for both pedestrians and cyclist.

In the event that the River Walk is not feasible and the on road path is constructed, the City has the following concerns and comments.

1. The western end of Knight Street, near the intersection of Route 5, will be subject to sidewalk and roadway improvements as part of the redevelopment of the Pontiac Mills. The developer has agreed to install sidewalks, period lighting and landscaping and will be constructing new parking facilities in this area. This project has both Planning Board and Historic District Commission approvals. Any bicycle route should be coordinated with this project.

2. Knight Street is a narrow road with limited shoulder capacity. With the proposed reconfiguration of Route 5, Knight Street will see more traffic as a direct connection to Pontiac Avenue. This is a potentially dangerous route for pedestrians and cyclists.
3. Both Routes 5 and 2 will be extremely difficult for pedestrians or cyclists to cross safely. What provisions will be made to ensure safety and not impact traffic flow.
4. Both Routes 5 and 2 have a high volume of traffic traveling at high speeds. Will there be a physical separation of cyclists from traffic?
5. Traffic congestion is currently an issue on both Routes 2 and 5. Will the addition of a bike lane have an effect on traffic flow?

The City of Warwick is supportive of the bicycle network project and we look forward to reviewing and commenting on the plans as the project progresses. If you have any questions, please feel free to contact my office at 738-2000, ext 6293.

Sincerely,

Patricia Reynolds
Warwick Planning Department
Urban Planner/Designer

Cc: Mayor Avedisian, Mark Carruolo, Marge Ryan, Rick Crenca

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Rhode Island Department of Transportation
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December 21, 2004

Ms. Patricia Reynolds
Urban Planner
Warwick Planning Department
3275 Post Road
Warwick, RI 02886

Re: Pontiac Secondary Bike Path
Draft Design Study Report

Dear Ms. Reynolds:

Thank you for your comments on the Pontiac Secondary Bike Path Draft Design Study Report contained in your letter of December 14, 2004.

As you know, this southern phase of the project will require additional analysis considering the difficulties and challenges of crossing Routes 2 and 5. Since the more feasible portion of this project is in the City of Cranston, we are proceeding to finalize the DSR to include a phased approach. With the TIP process well underway, it is important to complete the DSR at this time so the parties involved have all the information necessary to make decisions on the upcoming TIP submissions.

As you know, we will be hiring a consultant within the next month to begin an evaluation of the City of Warwick's Pawtuxet River Walk Project. As you stated in your letter, this project could provide a safer off road route to access the Washington Secondary Bike Path.

Your other comments regarding Routes 2 and 5 are all valid. We agree that these roadways can be quite challenging to cross by bicycle, particularly for a less experienced bicyclist. If Phase I section in Cranston proceeds beyond study and development, we can then conduct a more in-depth investigation of a bike facility through this area as part of that project.

Thank you for taking the time to review and comment on the draft report. We will forward copies of the report to you when it is finalized. Should you require additional information, please contact Steven Church or Stephen Devine of my staff.

Sincerely,

J. Michael Bennett, P.E.
Deputy Chief Engineer

JMB/SAD/amt

c: E. Parker, Jr., S. Devine, S. Church,
M. Carruolo-City of Warwick, M. Ryan-City of Warwick, K. Flynn-City of Cranston